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ABSTRACT

The results of a study of the market for university-based education programs for executives and managers is presented. Study objectives were to profile corporate use of various executive and management education programs, profile characteristics of university-based executive education programs currently offered, and identify trends and unmet needs in the market for executive development in general and for university-based programs in particular. Nine sections are as follows: introduction; design of the demand study; overview of executive development in U.S. companies; participant characteristics by program type; the program/participant decision making process; assessment of program effectiveness; trends in corporate use of executive development programs; examination of variation in program use and trends among large U.S. firms; and supply study: design and findings. Study findings include the following: the estimated number of executive/manager participants in executive education programs from firms of at least 1,000 is 3.9 million in 1986; the estimated size of the market for executive education programs from the firms represented in this study is $2 billion in 1986; and executive MBA programs are the most expensive at $14,000 per participant. Six appendices are: data collection procedures and response rates; corporate survey; procedures for handling missing data; data underlying figures reported in text; coefficients of OLS regression models described in section 8; and coefficients of multinomial logit models described in section 8. (SM)

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The Demand and Supply of University-Based Executive Education

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THE DEMAND AND SUPPLY OF UNIVERSITY-BASED EXECUTIVE EDUCATION

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August, 1988

The views expressed in this report are those of the authors and do not necessarily reflect those of the Graduate Management Admission Council.

EXECUTIVE SUMMARY

The objectives of this research are to: 1) describe the demand for executive education by U.S. firms, 2) describe the factors that affect the demand for executive education, 3) evaluate changes and future trends in the demand for executive education, and 4) profile recent trends in the characteristics of executive education programs. The analysis of the demand for executive education is based on a national survey of 611 private sector firms with at least 1,000 employees. The analysis of trends in program characteristics is based on information drawn from the 1976, 1981 and 1986 editions of *Bricker's International Directory*. Below we summarize our overall conclusions in general terms and discuss their implications. A more detailed description of the study findings follows.

Our study of the demand for executive education reveals that there has been a fundamental shift in the commitment of American firms to the continuing education of their executives and managers. The results show substantial growth in the demand for programs, stemming in part from the perceived challenges to management arising from increased international competition and the rapid development of new technology. Our results also point to changes in the types of programs sought by U.S. firms.

One of the most straightforward indicators of the increasing commitment to executive education is the growth in the number of firms with specific, formal policies requiring executive participation in such programs. These changes in company policy are consistent with our findings regarding growth in actual program utilization during the last five years. The pattern is reinforced by the projected growth in program utilization during the next five years.

A substantial change is occurring in the lengths and types of educational programs that executives and managers are receiving. They are most likely to participate in relatively short courses that give specific training on one or two topics rather than in longer programs that provide more general management training. Although universities continue to play a major role in meeting the demand for these short courses, the programs that experienced the largest past growth and that are expected to experience the most growth in the future, are in-house, company-specific programs. These have increased to the extent that approximately three-fourths of all participants in executive-education programs are now attending in-house courses, and our results indicate that this figure is likely to increase in the next five years.

This expected increase in short programs offers real growth opportunities for universities that wish to increase their participation in the executive education market. However, the prospects are not promising for the more general longer-term university programs.

Rapidly growing company-specific executive education also threatens to become a larger and larger part of the market currently shared by universities. Universities may wish to consider increasing their involvement in the provision of these relatively short company-specific programs. Their reputations as providers of high-quality instruction can enable them to enter into collaborative relationships with firms that wish to develop their own in-house programs. For example, our respondents cited a lack of quality courses dealing with planning and with technology and computers. Collaborations of this sort might also help to overcome the perception that universities are not responsible to the applied or practical educational needs of corporate executives.

The major findings of our study are detailed below:

Levels of Program Utilization. The use of formal executive education programs is only one of several approaches to management training mentioned by the firms in this study. On-the-job training, mentoring, job rotation, participation in special task forces and job performance evaluations are all widely used in combination with formal education programs. Although fewer than a quarter of all firms have a specific policy requiring participation in formal education programs by their managers, about 95% of all firms actually utilize some type of formal executive education. The vast majority of firms rely on short courses (usually 1 to 3 days) and in-house, company-specific programs to provide this training and a smaller proportion of firms use longer university residential programs (31%) or executive MBA programs (25%).

Size of the Market: Participants. The estimated number of executive/manager participants in executive education programs from firms of at least 1,000 employees is 3.9 million in 1986. Three-fourths (2.9 million) of these were participants in company-specific programs designed and conducted by either the firm itself or by another firm exclusively for the company's own staff. The large majority of the remaining 1 million participants attended short courses offered by private organizations, industry associations, consultants and universities. A very small minority of participants attended university residential programs (30,000) or executive MBA programs (9,000).

Size of the Market: Dollars. The estimated size of the market for executive education programs from the firms represented in this study is $2 billion dollars in 1986.

Company-specific programs account for 60% of this market and all university-based programs (executive MBA, university residential and university short courses) account for 20%. We estimate that the overall size of the market for executive development programs--after including smaller companies, government agencies and non-profit companies--to be on the order of $3 billion to $5 billion.

Average Costs By Program Type. Executive MBA programs are the most expensive at $14,000 per participant, on average, followed by university residential programs at $7,000. University short courses cost an average of $750 and other short courses cost an average of $700. The least expensive program type, as estimated by firms, is their own company-specific programs with an average of $450 per participant.

Characteristics of Participants. The characteristics of the managers sent by firms to executive education programs vary widely by program type. The longer, more expensive university residential and executive MBA programs are primarily used by experienced upper and top levels of management and by executives who are regarded by the firm as high-potential or "fast-track" managers. Short courses and company-specific programs are more widely used across all levels of management, all levels of experience and for both fast-track managers and managers making normal progress in their careers.

Sources of Information Regarding Executive Education Programs. Brochures and the recommendations of previous participants serve as the major sources of information for firms selecting executive education programs. At least 80% of the firms in our sample learned about executive education programs through these sources. Visits by company staff to external programs and visits by program staff to companies were each mentioned as a source of information for about one-third of the companies.

Expected Outcomes from Executive Education Programs. Firms have different expectations by program type. Longer-term university-based programs are expected to accomplish fundamental educational objectives and short courses and company-specific programs are primarily viewed as a source of new and job-specific skills. The opportunity for interaction with other executives, and the high quality of instruction offered are also cited as reasons for using all program types. Cost-effectiveness is a primary reason for utilizing in-house programs.

Reasons for Not Using Executive Education Programs. The primary reasons for non-use of university programs and short courses are costs, time away from work and lack of interest. Lack of interest and an associated perception of impracticality are most related to non-use of university programs. Few companies indicate that in-house programs compete directly with external programs.

Factors Influencing the Decision to Use a Particular Program. The most frequently mentioned factor affecting the selection of a particular executive education program is its content. At least 90% of the users of each program type consider this factor to be important. Perceived program effectiveness and program reputation are also cited by over 80% of short course users but slightly fewer university residential and executive MBA users. Program fees are a factor in selecting a short course, but cost is rarely important in choosing among longer-term university programs, once the decision has been made to use that type of program.

Participant Selection Process. The decision making process resulting in the selection of managers to attend executive education programs appears to be widely dispersed among various levels of management. The longer, more expensive programs are more likely to include top management in both the nomination and the approval process. Short-course decision making is typically done at a lower level, but many firms indicate that there is still some involvement by top management.

Assessment of Program Effectiveness. Information on companies' assessments of programs effectiveness was obtained in two ways: (1) improvements in job performance and (2) overall assessment of effectiveness. Our results indicate that company-specific programs and longer-term university programs are viewed as resulting in the greatest improvements in job performance. Three-fourths of all companies that used these three program types rated them as being either extremely effective or quite effective. Less than one-half of the companies that used short-course programs rated them as extremely or quite effective.

Differences in Overall Use By Company Characteristics. There are large differences in the use of executive education programs among companies of different size and industry. Although companies in our sample on average spent approximately $200,000 on executive development programs in 1986, this ranges from approximately $130,000 for companies with fewer than 5,000 employees to about $2.75 million for companies with at least 50,000 employees. There are considerable differences in expenditures by industry, with companies in the financial, insurance and real estate sector having the highest annual average expenditures of $300,000 followed by companies in the transportation, communications and utilities sector at $250,000. This compares to slightly over $100,000 for companies in either the wholesale and retail trade, or in the agriculture, mining and construction sectors.

Differences in Use of Specific Program Types By Company Characteristics. The financial sector is the largest user of university residential and company-specific programs, and is the second largest user of non-university short course programs. In addition, the transportation-communications-utilities sector is the largest user of executive MBA and university short course programs, and is the second largest user of university residential and company-specific programs. Companies in the service sector have the highest average expenditures on non-university short course programs, and are also large users of company-specific programs.

Trends in Program Use During Past Five Years. The major change in the market for executive education in the past five years has been the rapid expansion of in-house programs. Specifically, 63% of the companies in our sample reported offering in-house programs five years ago as compared to nearly 75% in 1986. In addition, approximately 60% of the companies reported increased use of in-house programs during this period. The major growth in company-specific programs appears to be concentrated in the financial sector. The other trends during this period are the modest growth in short course programs and the decline in use of longer-term university programs.

Expected Program Use During the Next Five Years. Similar to the trends for the previous five-year period, the major growth in the executive education market for the next five years is expected to be in company-specific and short-course programs. Specifically, nearly 80% of the companies reported that they expect to increase their use of in-house programs in the next 5 years, and approximately 58% expect to increase their use of non-university short-course programs. This compares to 50% for university short-course programs, 45% for university residential programs, and 33% for executive MBA programs. Fewer than 10% of the companies indicated that they anticipate a decrease in use of any program type during the next 5 years. The patterns of expected use over the next 5 years for current users and nonusers are very similar, and indicate that the major growth area will be in company-specific programs and short course programs, with somewhat smaller increases expected in longer-term university programs. In terms of company characteristics, firms in the financial sector are much more likely than other firms to report expected increased use of university residential, executive MBA and company-specific programs. Firms in the service sector are also expecting increased use of company-specific programs. Our results also indicate that the projected growth in non-university short-courses may be due to companies in the transportation-communications-utilities and wholesale and retail trade sectors that do not currently use such programs.

Reasons For Increases in Program Use During Next Five Years. Of the companies that expect growth in the next five years, the major reasons for the growth are to update executives/managers on changing concepts/skills and because of a new corporate emphasis on executive development. Nearly 40% of the companies that expect to increase their use of executive MBA programs or university short-course programs indicated that the increase is due to a new corporate emphasis on executive development programs. Fewer than 25% cited corporate emphasis as a reason for increased use of university residential and nonuniversity short-course programs.

Reasons For Decreases in Program Use During The Next Five Years. The main reason for expected decreases in executive MBA programs and short-course programs is the view that company-specific programs will better meet their needs: Of the companies that expect to decrease their use of such programs, 40-45% indicated that the major reason was that in-house programs better met their needs. The most often mentioned reason (nearly 30%) for the projected decline in the use of university residential programs is that such programs are becoming too expensive. A major reason for sending fewer executive/managers to in-house and short course programs is that companies are expecting to have fewer managers -- either because business is expected to decline, or because they are trimming the number of managers.

Sensitivity of Program Use to Business Conditions. Company-specific programs would benefit most from an improvement in business conditions. Nearly 50% of the companies that currently use in-house programs indicated that the number of participants would increase if business conditions were to improve. This compares to 30-35% for short course programs and about 20% for longer-term university programs. On the other hand, the longer-term university programs (and company-specific programs) appear to be less sensitive to a decline in business conditions than short-course programs. That is, about 50-60% of the current users of longer-term university programs and company-specific programs indicated that their use of these programs would not decrease if business conditions declined, as compared with approximately 40% for users of short-course programs.

Characteristics of Programs Contained in Bricker's Directory. The analysis of the characteristics of executive education programs currently offered and recent trends is based on listings of university residential functional and general management programs contained in various issues of *Bricker's Directory*. Our results indicate that average length of the functional management programs is about 1.5 weeks compared to slightly over 4 weeks for general management programs. The average cost per week is $2,090 for functional programs and $1,820 for general management programs.

Characteristics of Participants Who Attend Bricker's Programs. Consistent with the results from our survey, the longer training associated with university residential programs is typically reserved for the upper levels of management. Nearly 80% of the participants in both functional andgeneral management programs were from upper or top levels of management. Also, these participants represent all major management functions and tend to come from very large companies: approximately 60% came from companies with at least 10,000 employees and 30% came from companies with from 1,000 -10,000 employees.

Trends in Characteristics of Bricker's Programs. There have been substantial changes in the characteristics of the university-based executive education programs included in these directories. First, the length of the training programs have declined considerably: general management programs have declined from an average of 6.5 weeks in 1976 to 4.1 weeks in 1986, and functional management programs have declined from 2.6 weeks to 1.5 weeks. The decline in program length is primarily due to the rapid growth in the programs offered that are of only 1 week duration. Second, the cost per week of training (in real 1985 dollars) has increased considerably over the past ten years, from approximately $1,100 per week for both program types in 1976 to slightly over $1,800 for general management programs and to approximately $2,100 for functional management programs in 1986. Finally, the topics covered by functional management programs are becoming more specialized: fewer programs are focusing on general management areas and more on focusing on managing in a world of emerging issues such as technology, computers and information systems and international issues.

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Richard Nohl served as a consultant to the research team throughout the project and provided extremely valuable input to the design of the corporate survey and to the overall data collection plan. Paula Hudis reviewed our initial proposal and provided several suggestions for improvement, and she was also very giving of her time in reviewing a number of research products. We are also grateful, too, to a number of human resource managers from organizations that participated in our pretest, including the IBM Corporation, the Ford Motor Company, Bank of America, the Rolm Corporation and the Boeing Company.

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Finally, we are grateful to the company representatives who took the time and effort to complete the corporate survey. We hope that the study findings described in this report justify their efforts.

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I. INTRODUCTION

Background

The market for education and training programs for executives and managers can be characterized as large, competitive and dynamic. The market is served by universities, consultants, private organizations, and industry associations that offer programs for executives and managers on a wide variety of topics and range in length from relatively brief programs (e.g., 1 day seminars) to programs that last several weeks, and include degree-granting programs that last from 1 to 2 years. In addition, a major segment of the market is the vast array of in-house programs offered by companies for their employees. Although there is no information on the size of the in-house corporate education effort that is targeted to executives and managers, a recent study estimates that companies annually spend at least $40 billion on the education of all employees, and that from 60 to 80 percent of all corporate education and training is done in-house.[1]

The market for executive education has changed considerably in recent years. In responding to the ever-changing needs of business, the number of graduate schools offering general management or functional programs in executive education has grown substantially. In addition, the subjects of the programs offered have changed, the length of the programs have become shorter, and there has been growth in the number of business schools that are contracting with individual corporations to conduct executive education programs tailored specifically to the company's executives. At the same time, the number and types of programs offered by consultants and associations has increased dramatically, and there has been considerable growth in the training and development efforts offered in-house by corporations for their employees. To the extent that the recent expansion of in-house programs also applies to programs designed specifically for executives and managers, this suggests that the market for executive development programs is becoming increasingly competitive.

In making decisions on whether to enter the market for executive education and what types of programs to offer, or in making decisions on how to expand or alter existing programs, graduate schools of management must have access to current and detailed information on the market for executive education and how the market is likely to change. Although the major changes in the market for executive education are well understood in broad terms, the information available to graduate schools of management is fragmented and generally inadequate for planning purposes. In particular, virtually no research has been conducted on the market overall or on the role universities play in the market. As a result, there is no quantitative information available on the size of the market for executive education or on the characteristics of corporations that are most likely to use university-based executive education programs, nor is there information on how the market is likely to change in the near future. Instead, graduate schools of management must rely on their own experiences or on limited information when they make decisions regarding program offerings for executives.

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[1] N.P. Eurich, Corporate Classrooms: The Learning Business (Princeton, N.J.: Princeton University Press, 1985).

Objectives

In response to this lack of information, the Graduate Management Admission Council (GMAC) contracted with Battelle Human Affairs Research Centers to conduct a study of the market for university-based education programs for executives and managers. The major objectives of the study are to:

- Profile corporate use of various executive and management education programs and identify important factors that affect the demand for university-based executive education programs;
- Profile characteristics of university-based executive education programs currently offered; and
- Identify trends and unmet needs in the market for executive development in general and for university-based programs in particular.

In this report we describe the results of this study.

Overview of the Report

In order to meet the major objectives of the study we conducted two separate substudies. The major substudy, which we refer to as the "demand study," examines the factors that affect companies use of various executive education programs and likely trends. This study is based on data we collected from a detailed mail survey of a sample of large U.S. companies regarding their use of executive education programs. The other substudy, which we refer to as the "supply study," is a much smaller component of the research project. The supply study examines the characteristics of university-based executive education programs and recent changes based on data from published directories of selected program offerings. The details of the study design and our findings are presented in subsequent sections. In the remainder of this section we briefly describe how the report is organized.

In Section II, we describe the design of the demand study. This includes a description of the sample design used for the corporate survey, including the sample frame from which the companies were selected, method of selection and sample size. We also describe the design of the mail survey, and indicate the types of information obtained. A detailed description of the data collection procedures and experiences, including a response-rate analysis, is provided in Appendix A.

Based on the data obtained from the company survey, in Section III we describe in broad terms the state of the market for executive development in the United States. For example, we provide summary information on the size of the market for several different types of executive education programs. As such, this section provides a useful context in which to interpret the more detailed analyses described in subsequent sections.

In Sections IV and V, respectively, we provide basic descriptive information on who gets trained and on the decision-making process companies use to select participants and programs. In particular, in Section IV we characterize the managers who are generally sent to each of several different program types in terms of management level, experience, and their perceived "potential." In Section V, we discuss the reasons companies send executives to various types of programs and the process they go through to select participants. We also discuss the reasons companies gave for not sending executives to different program types.

In Section VI we summarize the companies' assessments of the effectiveness of each of the different types of executive education programs. These results are based both on the extent to which the job performance of executives and managers is judged to improve following program participation, as well as an overall subjective judgement of program effectiveness.

In Section VII, we present extensive data on recent changes in the use of different executive education programs and likely trends. For example, we compare the percentage of companies that use each type of executive education program in 1986 with the percentage that used each program 5 years earlier. We also provide descriptive information on the extent to which use of each program type changed in the last five years, expectations of future changes in use over the next five years and reasons why.

In Section VIII, we describe the results of several different analyses to identify the company characteristics that influence current executive education program use and past/future trends. In particular, we examine differences in program use patterns in terms of company size and industry categories. We also provide information on the types of companies that expect to be new (or increased) users of certain types of programs, as well as characterize the companies that expect to reduce their use of certain program types.

Finally, in Section IX, we describe the design of the supply study and summarize the major findings from the supply analysis. As described in that section, the supply analysis is based on data that we coded from selected issues of published program directories over the past 10 years. These data enable us to describe in detail the characteristics of university residential programs that are currently offered, as well as identify recent trends in key program characteristics. The results focus on program attributes such as length, cost, and participant and company characteristics.

II. DESIGN OF THE DEMAND STUDY

The demand study is based on data obtained from a mail questionnaire sent to a representative sample of large U.S. companies. The questionnaire solicited information on companies' use of various types of executive development programs, the levels/types of managers sent to these programs, the costs involved and information on recent trends and expected future use.In this section we describe the sample design and the questionnaire used to collect information from companies. We also briefly describe the sample of companies that responded to the survey.

Sample Design

In developing a sample design that would permit us to generalize the results to large companies throughout the United States, we selected the Dunn and Bradstreet data base to serve as the sample frame. This data base contains information on nearly two million public and private companies throughout the United States that have 10 or more employees or at least one million dollars annually in sales. The data base also includes information on the characteristics of the companies that are useful in selecting the sample and in conducting the analysis. For example, the Dunn and Bradstreet data base includes valuable contact information (e.g., address, telephone number) as well as information on industry and size.

The next step involved certain restrictions on the companies to be included in the final sample frame. Although an important study objective was to obtain information from a broader sample of companies than previous studies -- that have tended to examine only very large companies (e.g., Fortune 500 companies) -- we also wanted to focus on companies that were likely to have some executive development and, in particular, were potential users of university-sponsored programs. Recognizing that very small companies are likely to comprise a minor part of the overall market for executive education programs, and based on input from several experts in executive development, we ultimately decided to restrict our study to the companies in the Dunn and Bradstreet data base that had at least 1,000 employees.

We also excluded government and public agencies from the sample frame in order to focus the study on private companies. This restriction was imposed for several reasons. First, the coverage of government and public agencies in the Dunn and Bradstreet data base is less complete and likely to be less representative than for the private-for-profit companies. Second, because the demand for executive development programs is likely to be considerably greater in the private sector, we did not want to allocate some of our limited sample size to government or public agencies and dilute our ability to better understand the factors that affect the use of executive education programs for large private companies. Finally, in terms of the logistics of data collection, we felt that a separate version of the survey would have to be developed for government and public agencies and that it would be much more difficult to identify the appropriate person in the organization to complete the survey. Thus, for these reasons we also excluded government and public agencies.

The final component of the sample design involves the determination of an appropriate sample size of corporations for the survey. The size of the sample is a crucial determinant of the statistical precision of the results. Although larger samples increase the statistical validity of the study findings, they also considerably increase data collection costs. Based on these trade-offs and the available budget for data collection, and recognizing the difficulty other studies have had in achieving high response rates from companies on surveys of executive education, we selected an initial sample of 1,000 companies from the sample frame of private companies with at least 1,000 employees. In order to ensure that the sample contained a sufficient number of relatively large companies (e.g., those with at least 50,000 employees) that are major users of executive education programs, it was necessary to oversample large companies. This was accomplished by randomly selecting companies from the sample frame with probability proportional to the number of employees.

Thus, the key features of the sample design for the demand analysis can be summarized as follows:

- The sample frame was developed from the Dunn and Bradstreet data base;
- Companies with fewer than 1,000 employees and government and public agencies were excluded;
- 1,000 companies were selected from the sample frame with probability proportional to the number of employees.

A detailed description of the data collection procedures used and a response-rate analysis is provided Appendix A.

Questionnaire Design

The other major component of the research design for the demand study involved the development of the corporate questionnaire. As we describe below, the principal data collection instrument was a detailed mail questionnaire. In addition, a telephone mini-survey was developed for company representatives that did not have the time to complete the entire mail survey. Below we describe the activities involved in developing the mail questionnaire, indicate some of the key decisions made, and overview the organization and content of the mail and telephone surveys.

In developing the mail questionnaire we reviewed the literature on executive development programs to ensure that the questions to be included covered the major issues of interest identified in the literature. We also talked with researchers who have contributed to this literature, with staff from universities that offer executive education programs, and with employees in the several large companies who are knowledgeable of the executive education programs offered in-house and of the external programs that are used. Based on this input, we developed a draft mail questionnaire that was carefully reviewed by experts in the field, by several representatives of large companies and by the GMAC Research and Test Development Committee, and additional revisions were made.

An important issue in designing the survey was to ensure that the information obtained reflected the experiences of the entire organization. In order to ensure that all of the units that make decisions concerning executive and management education in the organization are represented in relatively large decentralized companies, it is necessary that data be obtained from several parts of the organization. Although it might have been possible to send separate surveys directly to specific individuals within the same organization and aggregate the resulting information, based on our discussions with company representatives it was decided to send the survey to a key person within the organization who was responsible for executive education (e.g., Vice-President of Human Resources), and have that person contact others in the organization for additional information if necessary. Thus, the mail survey was designed to be sent to a single individual within each company.

In designing the structure and content of the survey, we organized the questions by *type* of executive/management education program. Although such an organizational structure has the disadvantage of resulting in a somewhat longer survey -- as similar questions are repeated by program type -- we felt this would result in more valid data and potentially reduce respondent burden. That is, because companies often use a number of different types of programs, for different reasons and at a very different cost per participant, keeping this information separate by program type would provide more meaningful data. Also, because this structure reduces the number of mental calculations respondents have to make to correctly aggregate the information across programs, it may indirectly reduce respondent burden.

After deciding to organize the mail questionnaire primarily by program type, the next issue concerned the specific executive development programs to include. In making decisions on the specific types of programs to include in the survey and how to group them, we attempted to meet the following four competing objectives:

- Include as many different types of university programs and competing programs as possible;
- Include all major types of executive education programs used by companies;
- Not include so many different program types that the survey becomes so long that response rates are adversely affected; and
- Create major groups of programs by type that are reasonably homogeneous so that respondents can relate to the groups and thus minimize the burden of completing the survey and improve data quality.

In attempting to meet these objectives, we organized the questionnaire to obtain detailed information on the following four major program types:

(1) University residential programs, defined to be campus-based programs offered by universities for executives and managers from various companies, that do not grant a degree, and require full-time residential attendance for from 1 to 14 weeks.

(2) Executive MBA programs, defined to be programs designed specifically for executives, that grant an MBA degree, and last from 1 to 2 years. Participants generally attend these programs on weekends and/or one day during the work week and are not normally in residence, except for perhaps a short time either at the beginning or end of the program.

(3) Short course programs, which are open-enrollment programs that are typically 1 to 3 days in length (but definitely less than a week) and generally cover one or two topics. Such programs are offered by universities, consultants, and private organizations/associations to participants from several companies.

(4) Company-specific programs designed specifically for executives/managers within a company. These programs may be developed by company personnel, consultants, or a university, but they are designed for and attended exclusively by a single company's executives and managers. Such programs are offered at the company's facilities, at those of a consultant or university, and at off-site locations.

It should also be noted that because many of the questions included in the section for short course programs are asked separately for those offered by universities and those offered by nonuniversity sources, the survey essentially obtains detailed data for five major program types. In addition, the questionnaire obtains limited information on the use of general MBA programs -- which are not designed specifically for executives/managers -- as well as limited information on the Sloan management programs that are offered by the Massachusetts Institute of Technology and Stanford University.

For each of the major executive education program types, the mail questionnaire includes a series of items designed to provide information on the following general issues:

- Reasons why companies use or do not use each program type;
- Levels/types of managers sent to each program type;
- Decision-making process used to select participants and programs;
- Assessment of the effectiveness of each program type;
- Number of programs used, participants sent, and costs for each program type in 1986; and
- Recent trends and expected future use of each program type.

In addition, the mail survey also includes questions concerning the company's general approach to executive development as well as open-ended questions on unmet needs in the market for executive education programs. A copy of the mail survey is provided as Appendix B.

As indicated earlier, we also designed a brief telephone survey to obtain summary information from companies that were not able or willing to complete the mail questionnaire. In particular, the telephone survey was offered during our follow-up calls to company representatives who had not returned the mail questionnaire and who indicated they would not have the time to complete the entire questionnaire. The telephone interview took from 10 to 15 minutes to complete and included a subset of the questions concerning quantitative information on current program use (e.g., whether sent executives/managers to each program type in 1986, number of executives sent, and costs), and limited information concerning recent trends and expected future use. None of the items concerning reasons for using or not using certain programs, or those related to the levels of management sent to each program type, or concerning the decision-making process were included in the telephone mini-survey. Thus, any results on such issues that are described in subsequent sections are based entirely on the data obtained from the mail questionnaire.

Description of Analysis Sample

The company data collection effort began in February 1987 and was completed in June 1987. Overall, we received 611 completed interviews, including 444 mail questionnaires and 167 telephone mini-surveys. This corresponds to an overall response rate of over 60%, which is very high for surveys of this type.[2] Moreover, as described in Appendix A, it appears that the companies that responded to the surveys are generally representative of the original sample, which gives us some confidence that our results can reliably be generalized to the population of large companies. Below we briefly describe a few characteristics of the sample of companies that responded to our surveys and that are included in our analysis sample.

In Figure II-1, we describe of the companies that responded to our surveys. As the first panel of this figure indicates, approximately 40% of the companies have between 1,000 and 5,000 employees, and nearly 20% have at least 25,000 employees. It

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[2] For example, Vicere (1982) obtained a 37% response rate from his survey of Fortune 500 companies and Lusterman (1977) obtained a 22% response rate from his survey of companies that had at least 500 employees.

FIGURE II-1

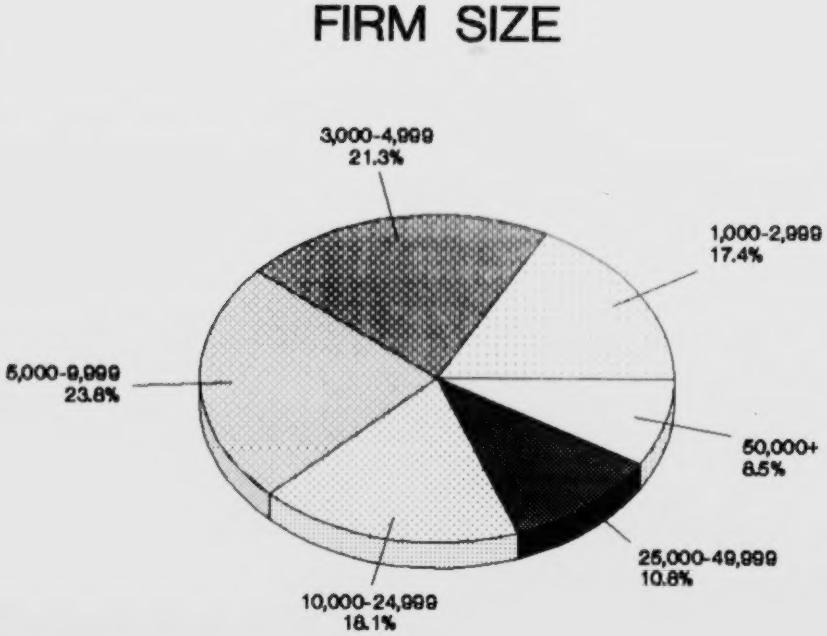
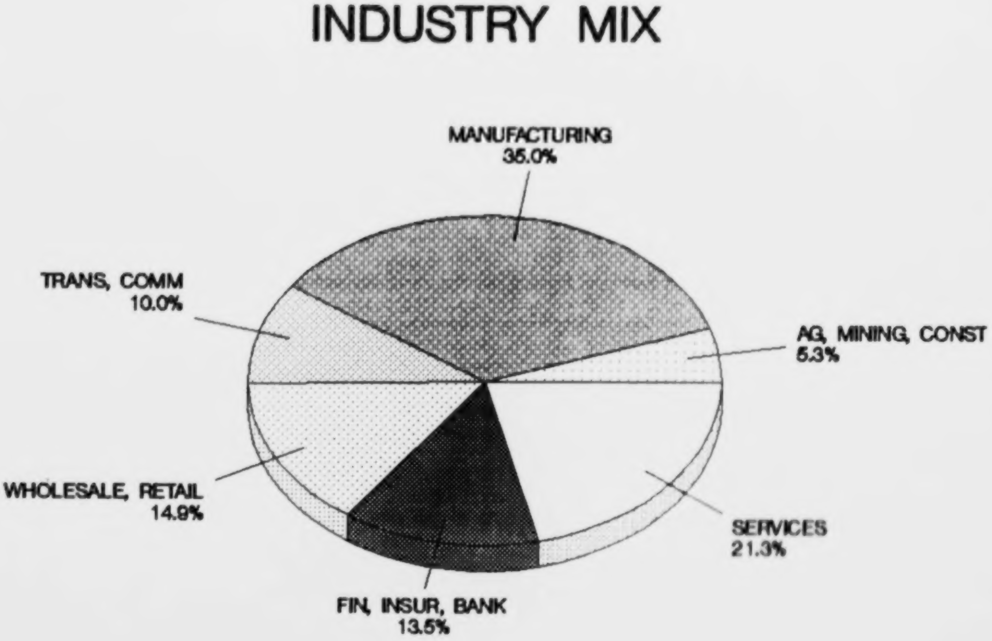

FIRM SIZE
3,000-4,999
21.3%
1,000-2,999
17.4%
5,000-9,999
23.8%
50,000+
8.5%
25,000-49,999
10.8%
10,000-24,999
18.1%

FIGURE II-1 (continued)



is estimated that our sample of 611 companies represents slightly over 10,000 private-for-profit companies in 1986 with at least 1,000 employees and that these companies employed 54.6 million persons, of which 5.8 million are managers or executives.

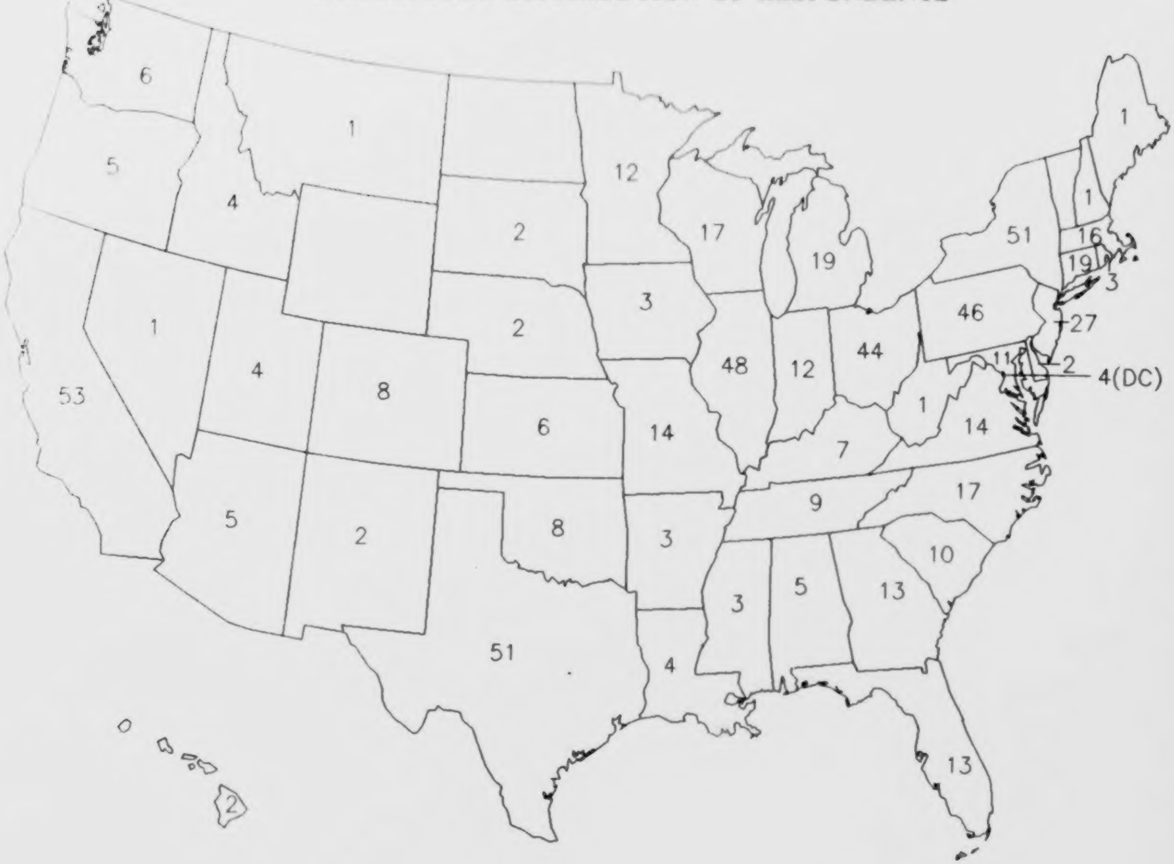
In the second panel of Figure II-1, we describe the industrial composition of the sample of companies that responded to our surveys. As this figure indicates, manufacturing is by far the largest single sector represented in the sample, comprising approximately 35% of all companies that responded. The other major sectors represented include services (21%), wholesale and retail trade (15%), finance, insurance and real estate (14%), and transportation and communication (10%).

In Figure II-2, we depict the geographic distribution of the companies that responded to the survey. In particular, we indicate the number of companies that responded to our survey that have their headquarters in a given state. Not surprisingly, the states with the greatest number of companies in our sample are California (53), New York (51), Texas (51), Illinois (48), Pennsylvania (46), and Ohio (44). All states are represented except for North Dakota, Wyoming, and Vermont. Overall, approximately 15% of the companies have headquarters located in the West, 29% have headquarters in the Midwest, 27% have headquarters in the Northeast, and 29% in the South.

Overall, the sample is representative of the population of large firms in the United States. It contains a representative cross-section of industries, it contains an adequate number of firms of various sizes and it is representative in terms of geographic distribution. This, combined with the relatively high response rate, leads us to have considerable confidence in our ability to generalize the results to all large U.S. private sector firms.

FIGURE II-2

GEOGRAPHIC DISTRIBUTION OF RESPONDENTS


6
1
12
1
5
4
2
17
19
1
51
16
19
3
3
2
46
27
11
2
4(DC)
53
1
4
8
48
12
44
1
6
14
14
7
17
9
5
2
8
3
10
13
3
5
51
4
13
2

III. OVERVIEW OF EXECUTIVE DEVELOPMENT IN U.S. COMPANIES

Corporate America's role in the educational development of its executives and managers has changed considerably in recent years. In response to numerous changes in the business environment, the level of executive development has expanded and the nature and source of executive training has changed. In this section we provide a general overview of the status of executive development in 1986 for U.S. companies with at least 1,000 employees. In subsequent sections, we provide evidence on the types of managers who are sent to executive development programs, the process used by companies to select programs and participants, and discuss findings concerning recent and future trends.

The results presented in this section are based on analysis files developed from the detailed mail questionnaire and the telephone mini-survey described in Section II. Because the telephone survey only obtained a small subset of the information collected in the mail survey (e.g., summary data on the use of certain formal programs), some of the results described in this section are based on the total analysis sample of 611 companies that responded to either survey, while other results are based only on the 444 companies that completed the mail survey. However, as described in Appendix A, because the types of companies that responded to the mail and telephone surveys are very similar, and similar to the types of companies that did not respond, the results from both samples should be representative of the original population of large companies.

Before describing the results, two issues arose in developing the final analysis files and in conducting the analysis that should be briefly mentioned. These issues concern (i) missing data and (ii) weighting. Because some companies did not maintain detailed records of their use of certain executive education programs and, as is always the case in mail surveys, some respondents occasionally forgot to answer a question, we had to deal with missing data problems. Our general approach to handling cases with missing data is described in Appendix C.

The other issue concerns the weighting of the data and how the results are to be interpreted. Because the original sample of companies was selected with probability proportional to number of employees, this produces a sample that overrepresents large companies, but that is representative of employees in all companies with at least 1,000 employees. In order to adjust for the oversampling of very large companies, we weight the data by the inverse of the number of employees. This results in a representative *sample of companies* with at least 1,000 employees and enables us to make statements about the proportion of companies that follow certain policies or that use certain types of programs.

We now turn to the results. We begin with a brief description of the various activities that companies use in the educational development of their executives and managers. We then present summary information on corporate America's involvement in formal education programs for executives and managers. In particular, we discuss the types of formal education programs that were used in 1986, and the extent of use in terms of the number of executives and managers who were sent and total expenditures.

Overall Approach to Executive/Management Development

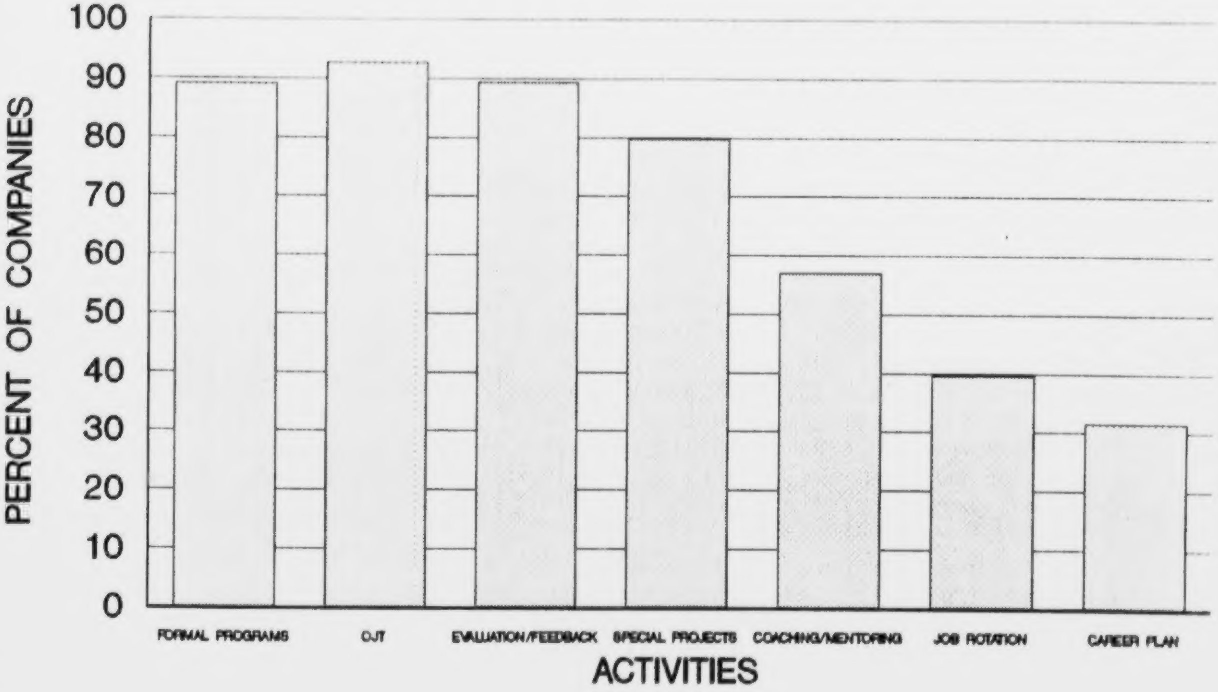
There are many different techniques that companies use for executive/management development in addition to participation in formal executive education programs. In the mail survey, we asked companies whether certain specific activities were part of executive/management development at their company. As indicated in Figure III-1, on-the-job training/development, participation in formal programs (either in-company or external) and job performance evaluation and feedback are the activities that are most often mentioned as part of the overall approach to executive development. Specifically, approximately 90% or more of the companies reported that they use each of these activities. Approximately 80% of the companies indicated that participation in special projects or task forces was used. Coaching or mentoring was mentioned by nearly 60% of the companies and other activities, such as job rotation or succession planning, and career planning were mentioned much less often (i.e., by fewer than 40% of the companies).

Although not reported in this figure, there are considerable differences in the activities that are used in executive/management development by company size. In general, large companies are much more likely to mention that they use each of the specific activities than smaller companies. For example, all companies with at least 25,000 employees mentioned that their managers participate in formal education programs, as compared to only 83% of companies with fewer than 3,000 employees. These large companies were also much more likely than smaller companies to use job rotation or succession planning (79% compared to 31%) and career planning (60% compared to 28%). The only activity that is equally likely to be used by companies of all size is on-the-job training/development for managers.

Although nearly all large companies send some executives and managers to formal executive education programs, our results indicate that fewer than one-fourth

FIGURE III-1

ACTIVITIES INVOLVED IN EXECUTIVE DEVELOPMENT



(22%) have a policy that requires executives to participate in formal management education programs. However, when compared to earlier studies, this suggests a strong recent increase in companies requiring participation in formal executive education programs. For example, Vicere (1982) reports that only 12% of the Fortune 500 companies he studied and a formal requirement of continuing management education.[3] Although the types of companies in our sample tend to be somewhat smaller than the typical Fortune 500 company, this suggests approximately a 10 percentage point increase in the likelihood of large companies requiring managers to participate in formal executive education programs during the last five years. This trend is also supported by our survey results indicating that of the companies that currently have a policy requiring participation in formal programs, the policy has been in effect for less than 5 years for nearly 60% of the companies.[4] This trend is consistent with a growing market for executive development programs overall.

In order to understand the market for executive/management education, and the types of programs needed, it is important to know whether the policy requiring participation in formal education programs applies to all levels of management, or only to certain levels. In the mail survey, we asked whether the policy applied to first-level managers (i.e., entry-level supervisors), middle managers, upper-level managers (i.e., heads of a functional area or heads of major business units), and top-level managers (e.g., senior-level executives or vice presidents). As indicated in Figure III-2, the policy primarily applies to first-level and middle-level managers. That is, of the companies that have such a policy, it applies to first-level or middle-level managers in 80-90% of the companies. On the other hand, the policy only applies to upper-level managers in 60% of the companies and to the top-level executives in slightly under 50% of the companies.

In Figure III-3, we provide information on the same issue in a slightly different format. Specifically, of the companies that have a policy requiring their managers to participate in formal education development programs, we indicate the percentage for which the policy applies to various combinations of management levels. As this figure indicates, fewer than 40% of the companies report that the policy applies to all

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[3] A.A. Vicere, Executive Development in the "Fortune 500" Companies (Pennsylvania State University, 1982, unpublished manuscript).

[4] This interpretation is based on the assumption that companies that do not currently require their executives/managers to attend formal education programs also did not previously have such a policy.

FIGURE III-2

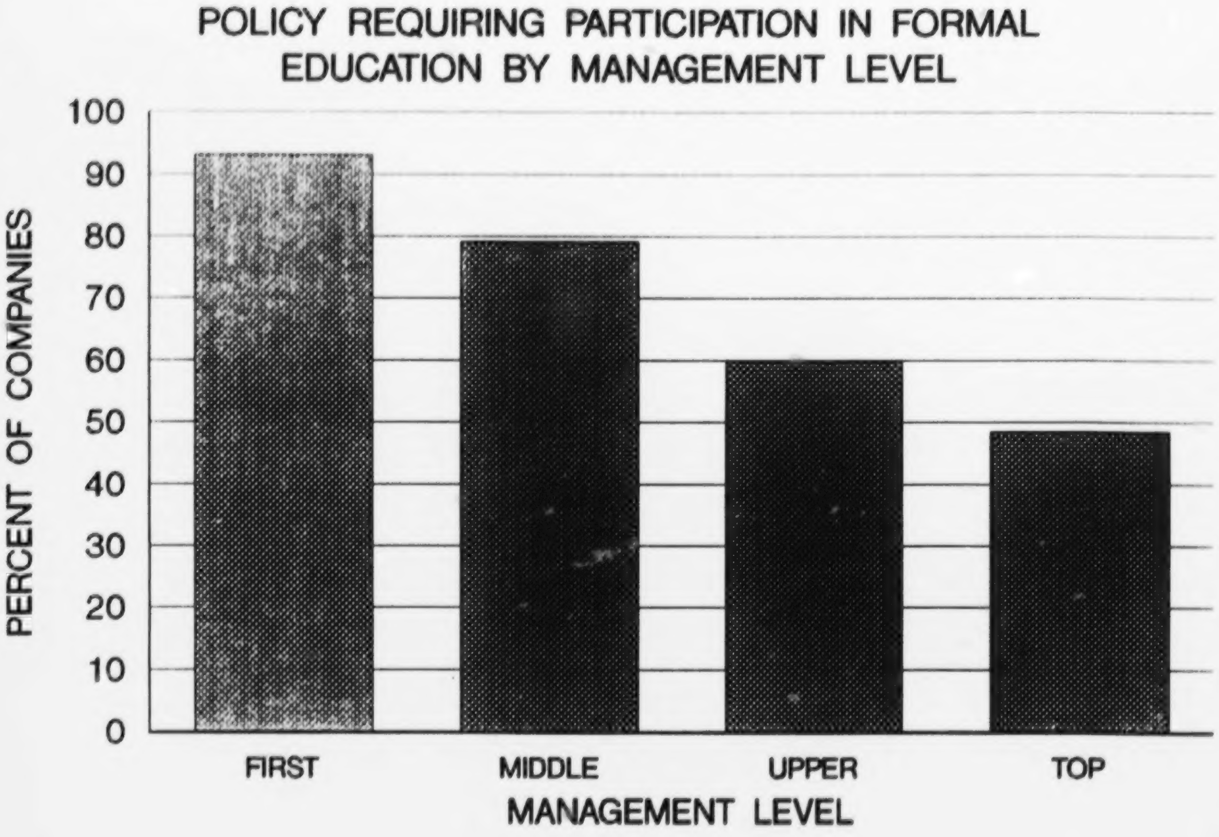
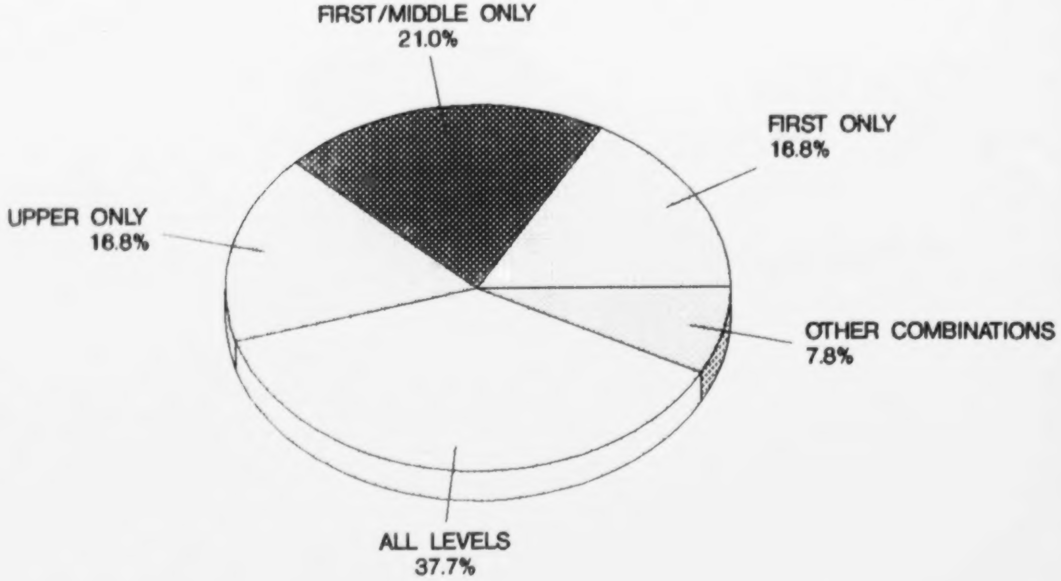

POLICY REQUIRING PARTICIPATION IN FORMAL EDUCATION BY MANAGEMENT LEVEL
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
FIRST
MIDDLE
UPPER
TOP
MANAGEMENT LEVEL

FIGURE III-3

PERCENTAGE OF COMPANIES WITH POLICY THAT REQUIRES CERTAIN MANAGEMENT LEVELS TO ATTEND FORMAL PROGRAMS



management levels. Approximately 17% reported that the policy applies only to first-level managers, 21% indicated that it applies only to first- or middle-level managers, and another 17% reported that the policy applies only to all management levels except top-level executives. Thus, although there has been a considerable increase in the commitment of corporate America to use formal management education programs within the last 5 years or so, this still currently applies primarily to lower management levels.

Use of Formal Executive/Management Education Programs

As described in Section II, both our mail and telephone surveys obtained information concerning the use of certain types of executive education programs in 1986. In particular, we obtained information on whether the company used a specific program type, the number of executives/managers sent to each type, and the costs involved. This information was obtained for several types of programs including university residential, executive MBA, short courses offered by universities and by other sources, and company-specific programs. We also obtained limited information on the use of general MBA programs. In the remainder of this section we summarize these results.

In Figure III-4, we depict the proportion of companies in our sample that used various types of executive education programs in 1986. This figure indicates that executives and managers are more likely to be offered relatively brief management education programs. Specifically, 90% of the companies with at least 1,000 employees reported using short course programs (1-3 days) offered by consultants, private organizations or associations in 1986, 75% offered in-house programs for managers, and 72% of the companies used short course programs provided by universities. On the other hand, many fewer companies reported using longer-term university programs. Specifically, fewer than one-third (31%) of these large companies sent managers to university residential programs and 25% reported using executive MBA programs in 1986. Although not reported in Figure III-3, of the nearly 90% of all companies that have a tuition-reimbursement policy for attending a general MBA program, only approximately 60% of the companies reported that some of their executives/managers participated in a general MBA program in 1986.[5]

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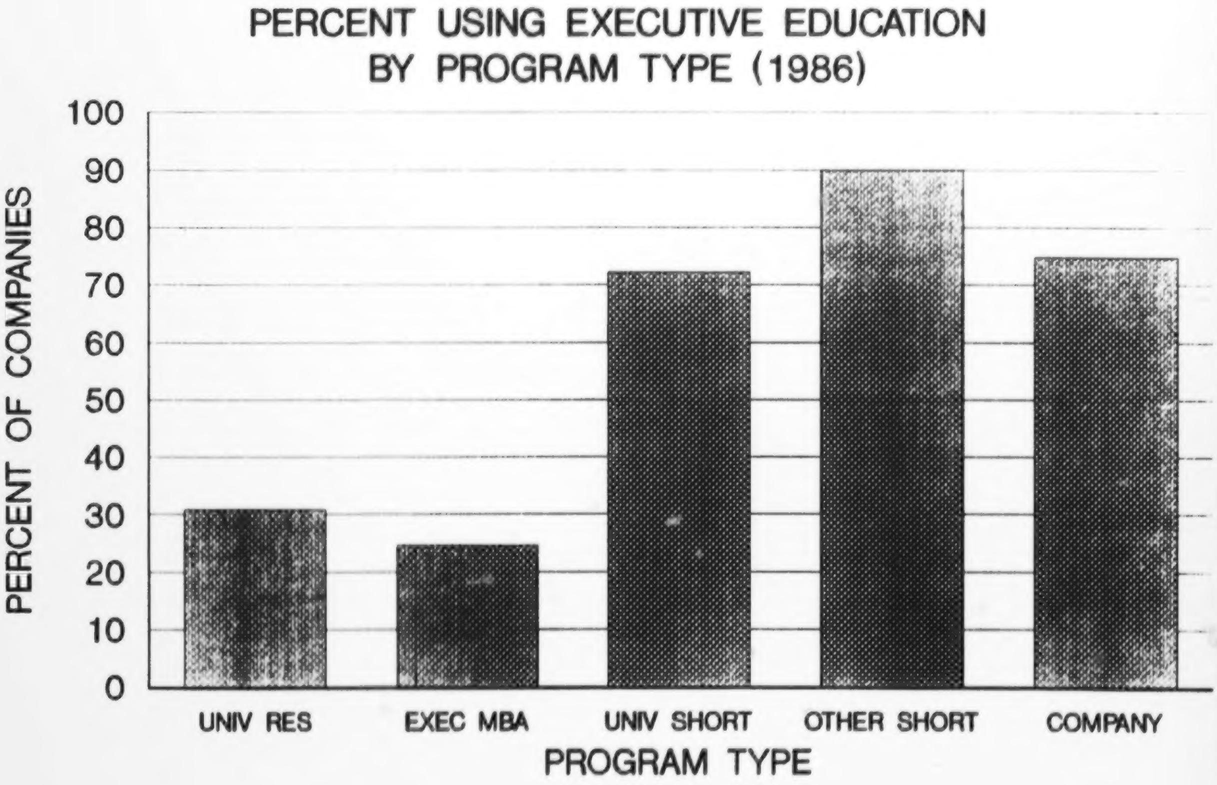
[5] Our results also indicate that only approximately 2% of all large companies sent executives and managers to the Sloan residential management program offered by the Massachusetts Institute of Technology and Stanford University.

FIGURE III-4



PERCENT USING EXECUTIVE EDUCATION BY PROGRAM TYPE (1986)
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
UNIV RES
EXEC MBA
UNIV SHORT
OTHER SHORT
COMPANY
PROGRAM TYPE

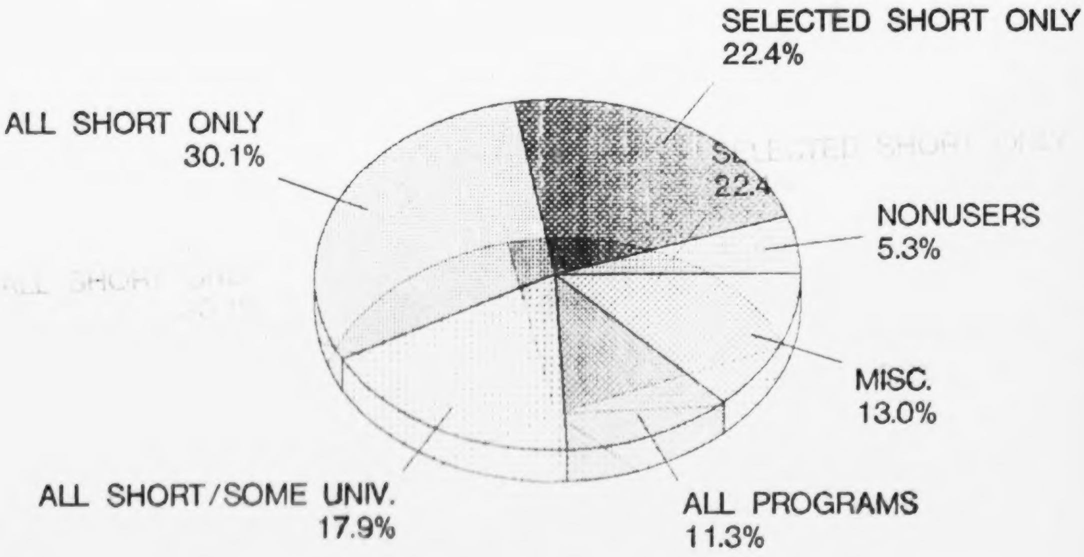
As expected, there are generally large differences in the likelihood of using certain program types by company size, with larger companies much more likely to use some university programs. For example, although only 25% of the companies with fewer than 3,000 employees reported that they sent executives/managers to university residential or executive MBA programs, 65% of the companies with at least 25,000 employees sent executives to university residential programs and 42% sent some of their executives/managers to executive MBA programs. Such larger companies are also more likely to send some managers to university short course programs (85% compared to 69%), as well as to offer in-house programs for their executives (88% compared to 72%). On the other hand, the likelihood of using non-university short course programs is essentially the same for companies of different size.

In Figure III-5, we summarize the results of our efforts to categorize the mix of programs used by U.S. companies. As this figure indicates, approximately 5% of the companies used no formal executive education programs, and the majority of the companies relied exclusively on in-house programs or short course programs. Specifically, 22% used some (but not all) of these three types of relatively brief programs (i.e., in-house programs, university short course programs and non-university short course programs), while another 30% used all three of these types of programs only. On the other hand, 11% of the companies used all five types of executive education programs in 1986 and another 18% combined using one or the other type of longer-term university program (i.e., university residential, executive MBA) with in-house programs and both types of short course programs. The remaining 13% of the companies used other various combinations of program types that included one of the longer-term university programs with selected shorter programs. It should be noted that although none of the companies reported relying exclusively on universities for their management education programs, slightly over 90% of the companies indicated that they used some type of university management programs.

In understanding the role universities play in the market for executive education, it is important to determine the extent to which they participate in the design and delivery of company-specific (i.e., in-house) programs. That is, focusing solely on the extent to which companies send their managers and executives to external university-based programs understates the role universities play in executive development. Our results indicate that universities are an important part of the development of in-house executive programs offered by many companies. For example, of the companies that offer in-house programs, university personnel were involved in developing some of these programs for approximately one-fourth of the companies. It should also be noted that university personnel involvement in the development of

FIGURE III-5

PERCENTAGE OF COMPANIES USING VARIOUS PROGRAM COMBINATIONS



company-specific programs is a relatively new phenomena for these companies. Specifically, of the companies that used university personnel in the development of current in-house programs, 85% of the programs have been in place for less than five years.

In addition to their role in developing in-house programs, universities also often play a role in the delivery of company-specific programs. Our results indicate that of the companies that offer in-house programs, 36% mentioned that university personnel were used as individual consultants in delivering some of these programs and 18% mentioned that university personnel were involved in delivering a university program developed specifically for the company. Approximately one-sixth of the companies indicated that college credit can be earned for participation in some of their company-specific programs for executives/managers.

Our mail and telephone surveys also obtained considerable information on the number of different programs of each type used in 1986, the number of executives/managers sent to different programs, and the costs of each program type. Among companies that use a specific type of executive development program, there is considerable variation in the number of different programs that were used in 1986. For example, a few companies reported using as many as 50 different university residential programs, 10 different executive MBA programs, 100 different university short course programs or company-specific programs and 500 different non-university short course programs. On the other hand, the majority of the companies tend to concentrate their training efforts in a relatively small number of different programs within each type. Specifically, the median number of programs used for each program type among users is as follows: university residential (2); executive MBA (1); university short course (6); non-university short course (10); company-specific (6).

In Figure III-6 we provide information on the program types that currently account for the training of executives and managers in large companies. As this figure indicates, the majority of the executive development that is being provided to executives/managers in companies with at least 1,000 employees is occurring through in-house programs. Specifically, of the estimated 3.9 million executive/manager attendees in formal executive development programs in 1986, three-fourths (2.9 million) participated in company-specific or in-house programs.[6] Of the remaining

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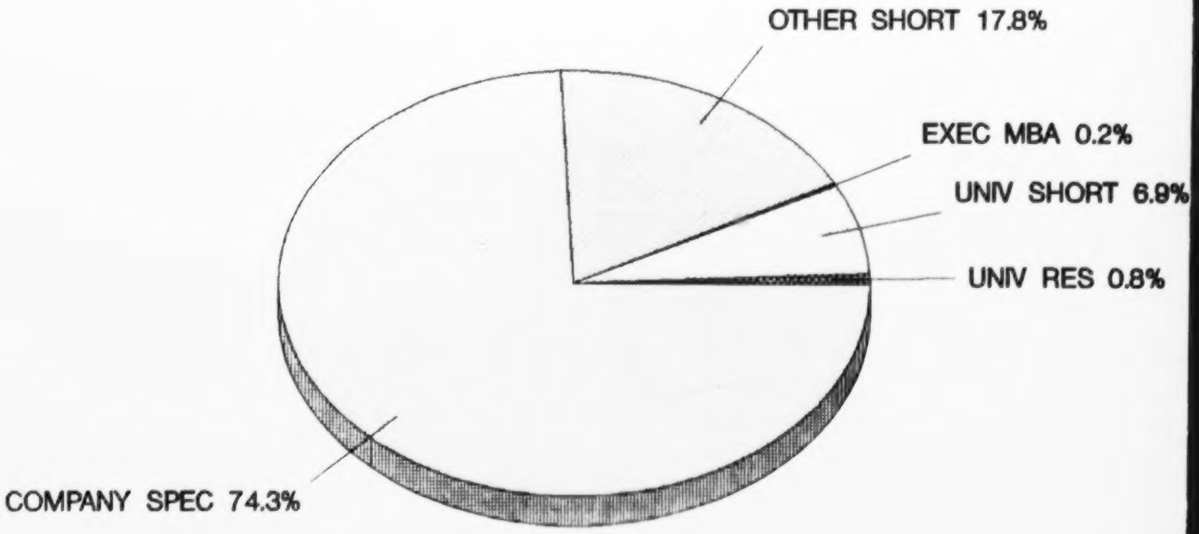
[6] The estimate of 3.9 million participants is based on the average number of participants in each program type from our survey in combination with estimates from Dunn & Bradstreet on the number of companies with at least 1,000 employees. It should be noted that because a given executive/manager may attend multiple programs, the number of program participants is likely to be somewhat larger than the number of different individuals who attend executive development programs.

FIGURE III-6

PERCENTAGE OF PARTICIPANTS SENT TO PROGRAMS BY PROGRAM TYPE



approximately 1 million executive/manager participants, 700,000 (17.8%) attended non-university short course programs, 270,000 (6.9%) attended university short course programs, 30,000 (0.8%) attended university residential programs and 9,000 (0.2%) attended executive MBA programs. Overall, university sponsored programs account for approximately 8% of the total number of participants in these executive development programs. Although not reported in Figure III-6, if one included tuition-reimbursement general MBA programs for managers, the share of the training performed by university sources directly would increase slightly to almost 10%.

In Figure III-7, we provide information on the average cost of each of these program types. In collecting this information from companies, we asked respondents to include both the direct expenses involved in program participation (e.g., fees, travel) as well as the indirect costs, such as the wages and salaries paid to participants when attending programs during regular work hours. For company-specific programs, we also asked respondents to include the costs of staff (and others) involved in conducting the in-house programs. As the results in this figure indicate, average costs of these programs differ considerably. Not surprisingly, the most expensive program per participant is the executive MBA program. The high average cost of approximately $14,000 is due to the relatively high yearly tuition fees, plus the fact that it is generally a two-year program. The average cost of university residential programs is approximately $7,000. The other programs are much less expensive on average: university short course programs ($750); non-university short course programs ($700); and company-specific programs ($450).

By combining information on participants sent to various program types and program costs, it is possible to estimate the total expenditures on executive development programs. Our results indicate that slightly over $2 billion was spent on formal executive development programs in 1986 by all companies with at least 1,000 employees. Although this estimate is quite consistent with Eurich's (1985) estimate of (at least) $40 billion spent on the education and training of all employees, it, of course, understates the total size of the market for executive/management development programs for several reasons.[7,8] Specifically, it understates the overall size of the market because: (i) smaller

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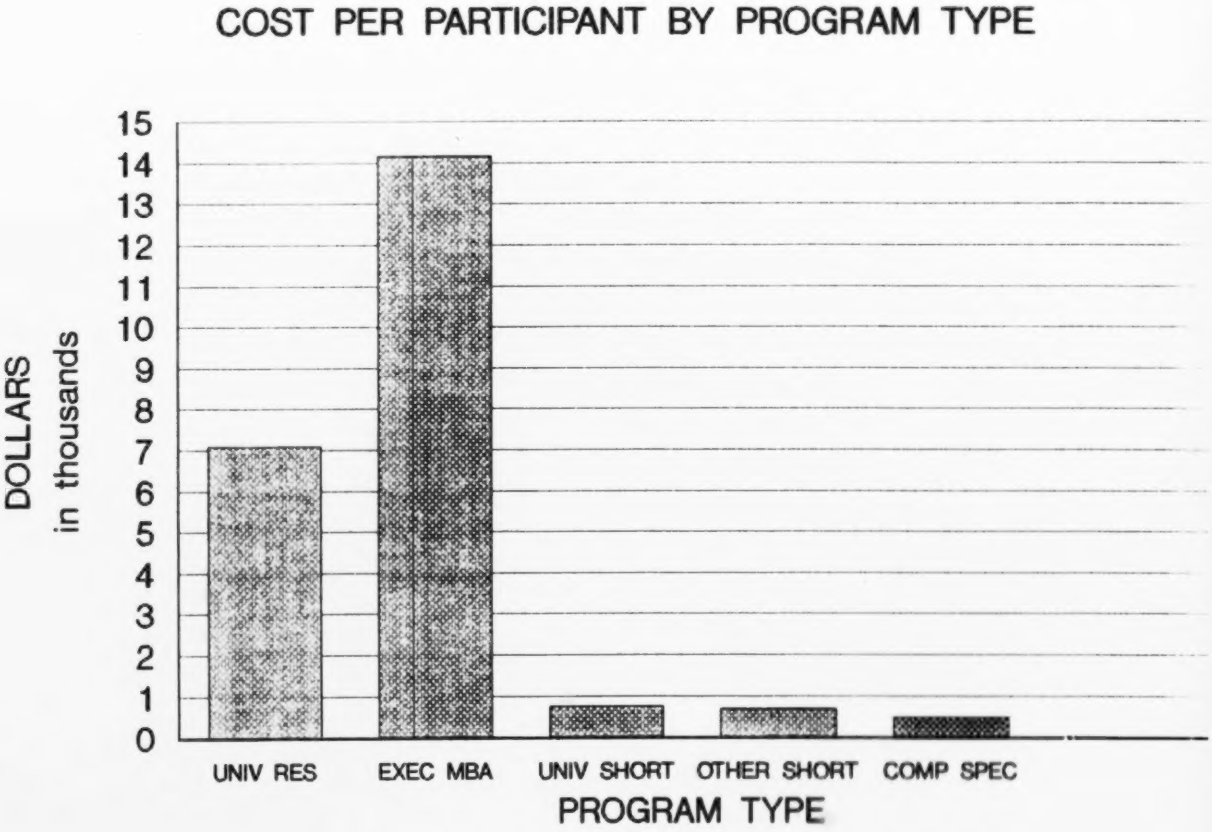
[7] That is, because roughly 10% of all employees are managers and Eurich also included all types of training programs -- not just management training -- in her calculations, an estimate of $2 billion spent by private large companies appears reasonable.

[8] Op cit.

FIGURE III-7


COST PER PARTICIPANT BY PROGRAM TYPE
DOLLARS
in thousands
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
UNIV RES
EXEC MBA
UNIV SHORT
OTHER SHORT
COMP SPEC
PROGRAM TYPE

companies are excluded; (ii) non-profit companies and government agencies are excluded; and (iii) technical training programs for executives/managers are excluded. Although it is very difficult to estimate with any precision the importance of each of these factors, it is likely that the bulk of executive/management education occurs in large private-for-profit companies. Thus, we would estimate the overall size of the market for executive development programs -- after including smaller companies, government agencies and non-profit companies -- to be on the order of $3 billion, and unlikely to be greater than $5 billion.

In Figure III-8, we describe the share of total expenditures on executive development programs by program type. As this figure indicates, although company-specific programs comprise 75% of the total number of participants, because these programs are considerably less expensive they only account for 60% of total expenditures. Because the university programs tend to be relatively more expensive, they account for 20% of all expenditures as a group whereas they only account for 8% of all participants. Although not reported in this figure, if expenditures for general MBA programs were included, the overall size of the market for firms with at least 1,000 employees would increase to about $2.2 billion, and the share of all expenditures accounted for by university programs would increase to slightly over one-fourth.

Finally, to provide a general indication of how expenditures on executive education programs overall vary across different company types, as well as to preview the results of later sections, in Figure III-9 we report the median expenditures per executive/manager in 1986 by industrial sector. Overall, the median expenditures per executive/manager is about $220. These results indicate that companies in the financial and insurance sector have the highest per executive/manager expenditures of nearly $400 per year, followed by the transportation-communications-utilities group (nearly $300) and the manufacturing sector (slightly over $200). On the other hand, the agriculture-mining-construction sector and the wholesale-retail trade sector have considerably lower median expenditures. These results of differences in expenditures by industrial sector for executives and managers are very consistent with the findings of Lusterman (1977) for all employees.[9]

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[9] Seymour Lusterman, Education in Industry (New York: The Conference Board, 1977).

FIGURE III-8

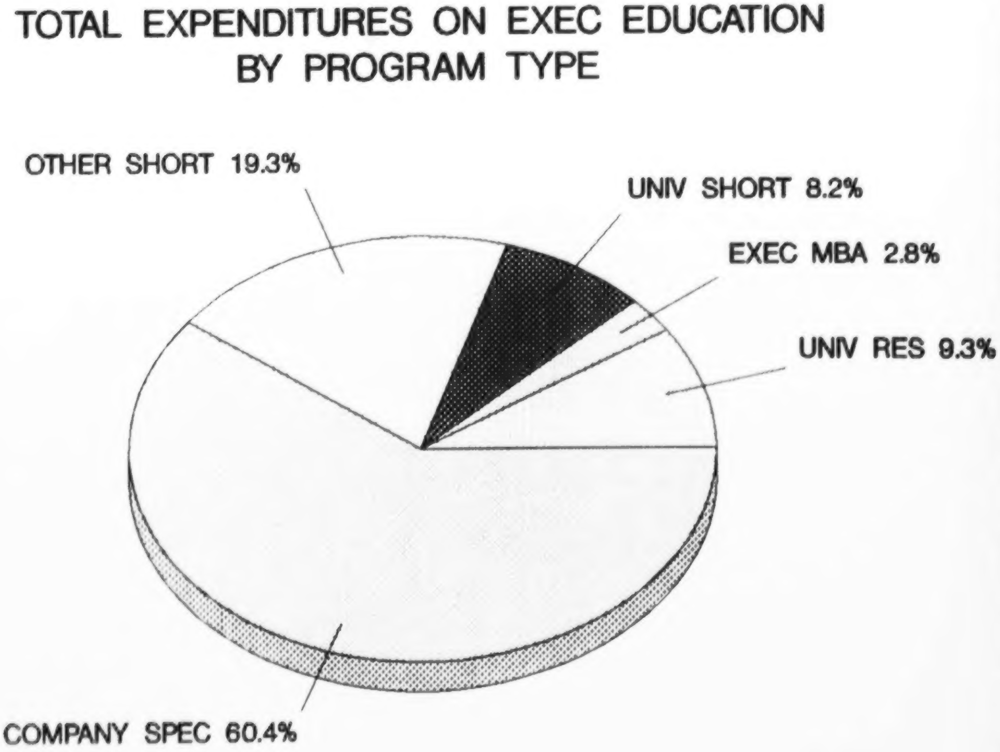
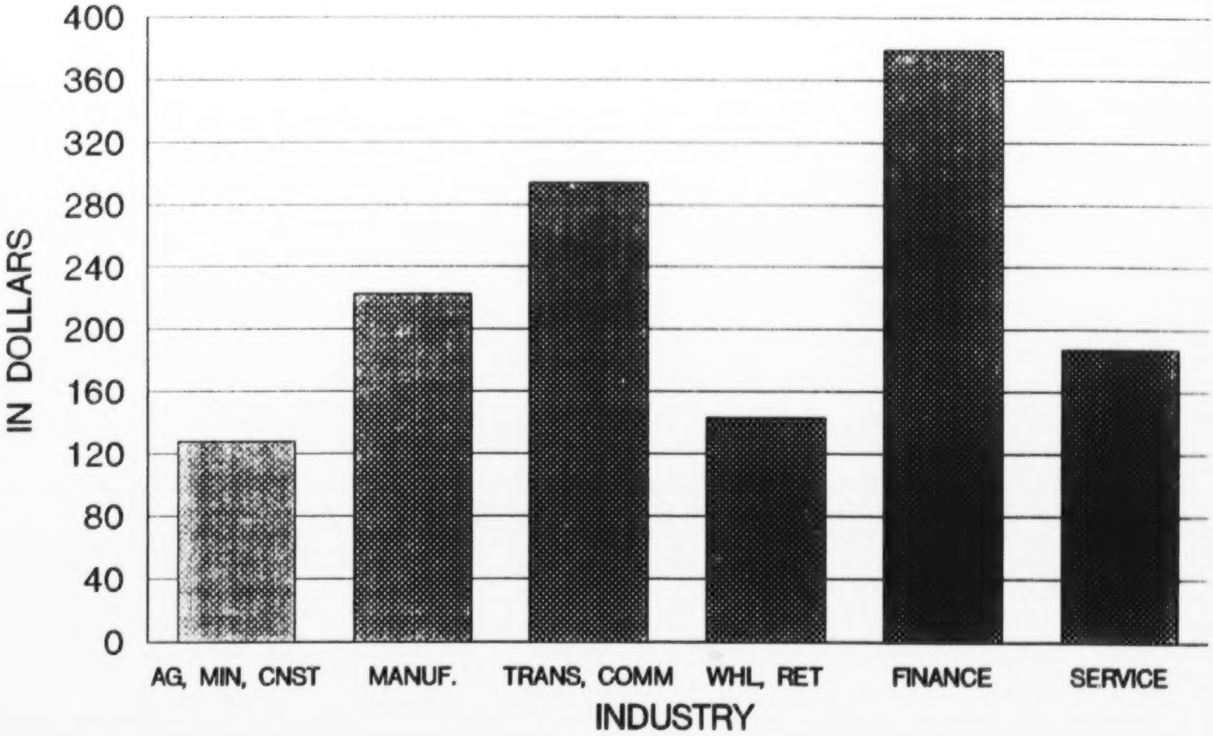

TOTAL EXPENDITURES ON EXEC EDUCATION
BY PROGRAM TYPE
OTHER SHORT 19.3%
UNIV SHORT 8.2%
EXEC MBA 2.8%
UNIV RES 9.3%
COMPANY SPEC 60.4%

FIGURE III-9

MEDIAN EXPENDITURES PER YEAR PER EXECUTIVE/MANAGER BY INDUSTRY



IV. PARTICIPANT CHARACTERISTICS BY PROGRAM TYPE

The previous section provided an overview of the market for executive education programs among large U.S. firms. As those results indicated, participation in formal executive education programs is an integral part of executive development in the large majority of companies and most of the training of managers and executives is conducted through company-specific and short course programs. Although there was some indication that the commitment to formal executive education programs seems to be greater for lower-level and middle-level managers, in developing and marketing programs it is important to have a good understanding of the types of managers who attend different programs. In this section, we provide evidence on the segmentation of the executive education market in terms of the characteristics of the managers served by different program types.

Our classification of program types is designed to reflect the segmentation of the executive education market into programs serving different needs, different types of managers and requiring different time and financial commitments. Although we obtained a great deal of information on the utilization of in-house programs, the results described in this section primarily focus on the three groups of external programs: university residential, executive MBA and short courses. By examining the characteristics of managers attending each of these program types we can identify the extent to which the market is actually segmented on this dimension.

In the results described below we consider three different manager characteristics: (1) management level, (2) the amount of experience held by the manager and (3) the perceived quality of the manager. These three characteristics were selected because of their impact on the type of training sought, the relative attractiveness of program types and ways in which the programs might be marketed.

Our examination of the different management levels sent to various program types considered four different management levels. Specifically, in the mail survey we obtained information on the use of executive development programs for the following management levels: (1) first/entry-level supervisors, representing the lowest level of management, (2) middle-level managers (i.e., the level immediately above first-level supervisors but not yet considered upper-level managers), (3) upper-level managers (e.g., individuals serving as heads of functional areas or heads of major business units), and (4) top-level managers (i.e., senior-level executives or vice presidents. Top-level managers are individuals considered to be active policy makers in the company.

The amount of experience held by program participants is a second characteristic of managers considered in this section. Three categories of experience are considered. Specifically, in the mail survey we differentiated the following types of experience categories: newly promoted managers (i.e., employees who have recently entered a management position), newly hired managers (i.e., mangers who may have a great deal of management experience but were hired into a management position from another firm), and experienced managers (i.e., individuals who have held management positions within the company for several years).

The third management characteristic we consider is an indicator of manager quality. In the mail survey, we measure manager quality with a simple dichotomy between "fast-track" or high-potential managers versus managers making normal career progression. Although this is a relatively crude measure, we felt it might help identify various segments of the market for executive education programs.

Taken together these three characteristics can serve to profile the types of managers being served by each of the program types. This information serves two purposes. First, it can be used to describe current patterns of program utilization thereby permitting the planning of program modifications or marketing approaches to better fit the actual practice of the firms that purchase executive education. Second, the information can be used to identify manager types that are not currently being sent to a specific program type but could be well served by such programs. In short, by further describing the utilization patterns of firms, it becomes possible to quantify the nature of the market and, having done so, identify potential opportunities for the development of programs directed toward under-served segments of the management population.

Management Levels Utilizing Executive Education Programs

In Figures IV-1 through IV-3, we summarize the results of our analysis of the levels of management sent to each of the three types of external executive education programs: university residential, executive MBA and short courses. The values reported in each figure show of the firms that use a particular program type, the percentage that send various levels of managers to each type. As the results in Figures IV-1 and IV-2 indicate, there is a very strong pattern in the use of university residential and executive MBA programs by only upper and top levels of management. For example, roughly 50% of the firms using university residential programs sent only top- or upper-level managers. Likewise, of the companies that use executive MBA programs, over 50% only send upper- and top-level managers. On the other hand, only 8% of the companies using university residential programs send all management levels and only 6% send all

FIGURE IV-1

MANAGEMENT LEVELS SENT BY FIRMS USING UNIVERSITY RESIDENTIAL PROGRAMS

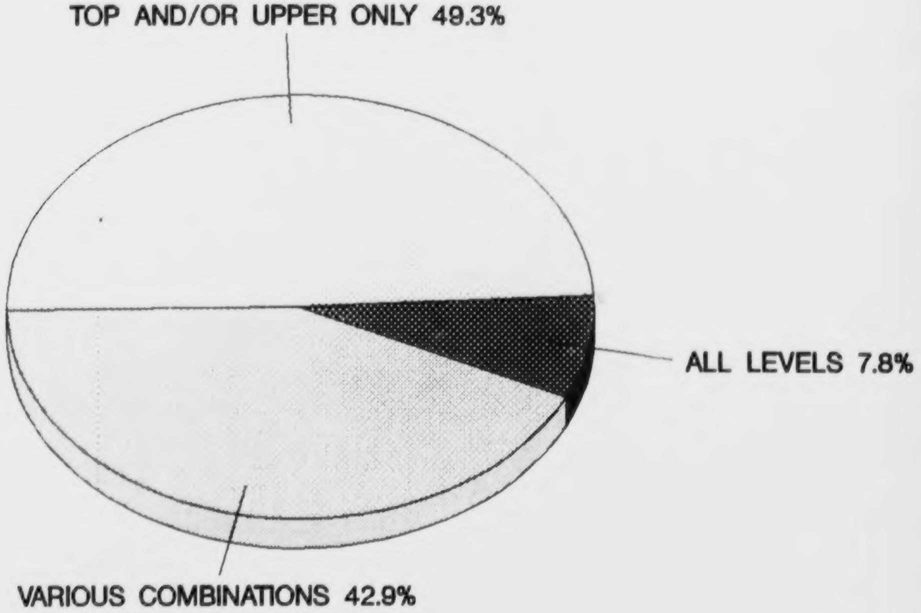


FIGURE IV-2

MANAGEMENT LEVELS SENT BY FIRMS USING EXECUTIVE MBA PROGRAMS

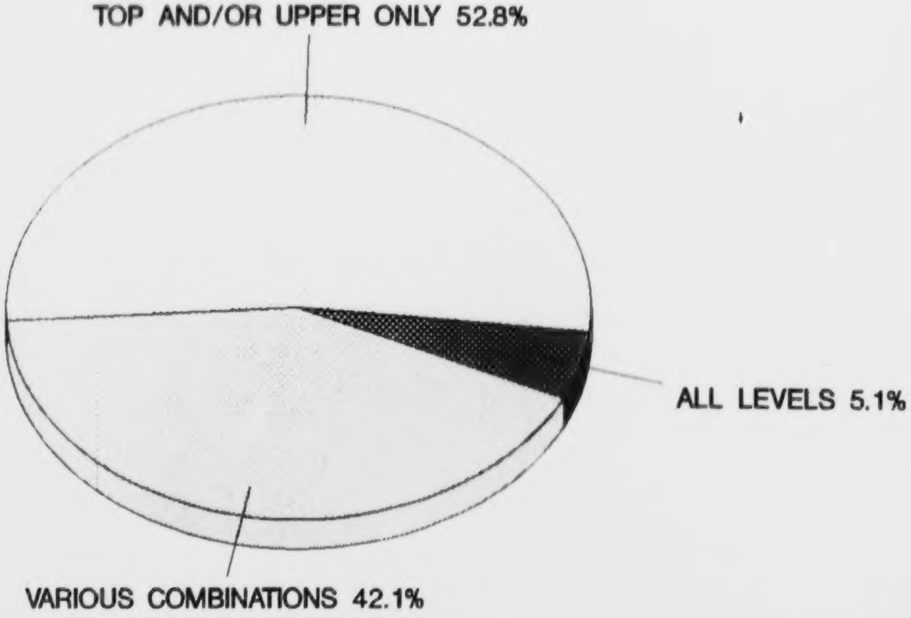
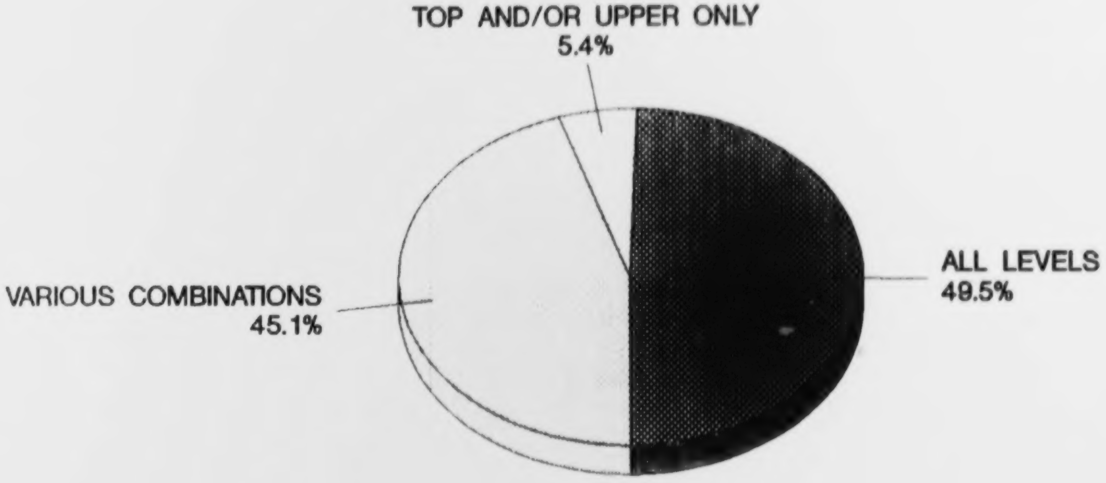


FIGURE IV-3

MANAGEMENT LEVELS SENT BY FIRMS USING SHORT COURSE PROGRAMS



levels to executive MBA programs. It is clear that these more costly types of executive education are primarily reserved for the upper levels of management.

In contrast, the results for short course programs described in Figure IV-3 show a very different pattern. In particular, approximately 50% of all companies that use short course programs send all levels of management to these programs and less than 10% send only top- or upper-level managers. Although not shown in this figure, it should be noted that we also examined whether there were any differences in the management levels sent to short courses provided by universities versus short courses provided by others. Because there were no differences in the levels of management sent to these two types of short course programs, the results were reported together under a single "short course" category.

In general, there is very little differentiation by management level of participants sent to short course forms of executive education. Although not asked in the same format, we did collect some information regarding the levels of management for which company-specific programs were designed. The results were very similar to those found for short courses. Company-specific management education programs are generally utilized by all levels of management. Management training designed for the company and short courses in executive education are two program types that appear to serve the broad market of executives from the entry level to the top level. University residential and executive MBA programs are being utilized primarily by the upper and top levels of management.

Experience Levels of Managers Utilizing Executive Education Programs

The extent to which program use varies by the amount and type of experience held by participating managers is illustrated in Figures IV-4 through IV-6. The pattern is similar to the findings regarding management level in that both the university residential and the executive MBA programs tend to attract experienced managers rather than either newly promoted or newly hired managers. Specifically, approximately 65% of the companies that use these longer-term university programs send experienced managers only, and less than 10% send all three experience levels. The larger investment by firms in these two types of executive education is primarily limited to the upper levels of management and to those who have spent significant time with the firm. Although not reported directly in these figures, it is interesting to note that even newly-hired managers, some of whom may have considerably experience acquired outside the company, are rarely sent to either university residential or executive MBA programs.

FIGURE IV-4

EXPERIENCE LEVEL OF MANAGERS
SENT TO UNIVERSITY RESIDENTIAL PROGRAMS

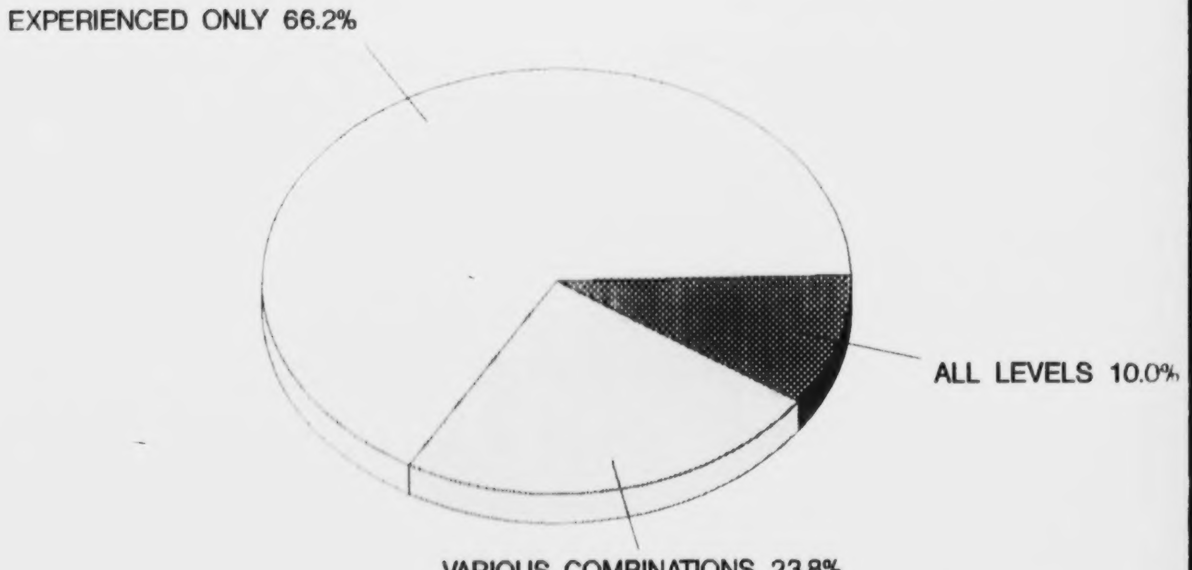


FIGURE IV-5

EXPERIENCE LEVEL OF MANAGERS
SENT TO EXECUTIVE MBA PROGRAMS

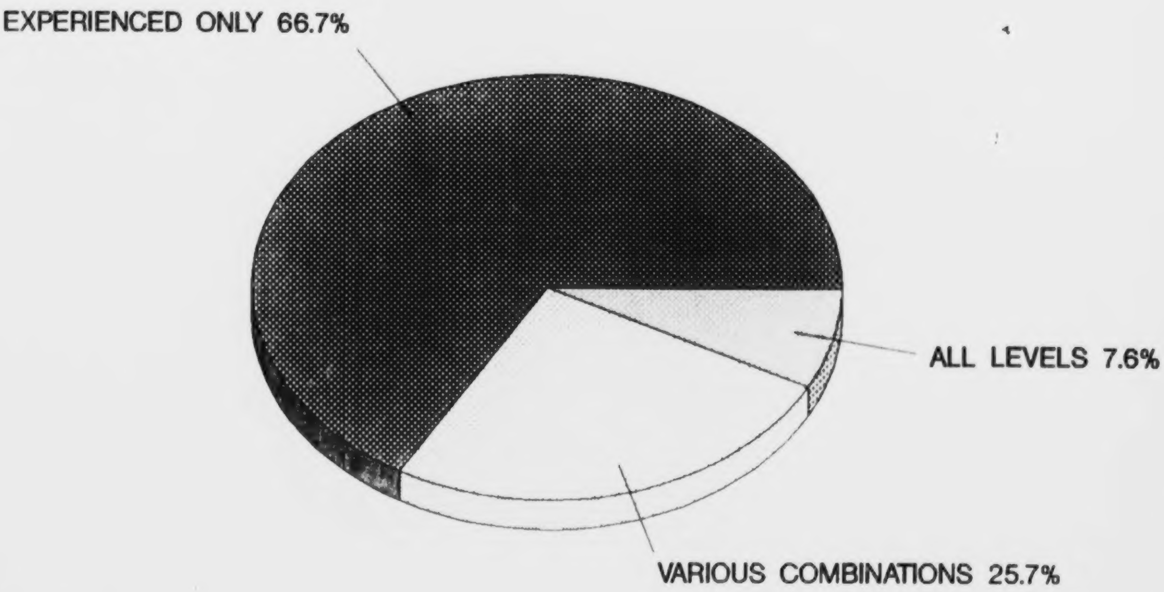
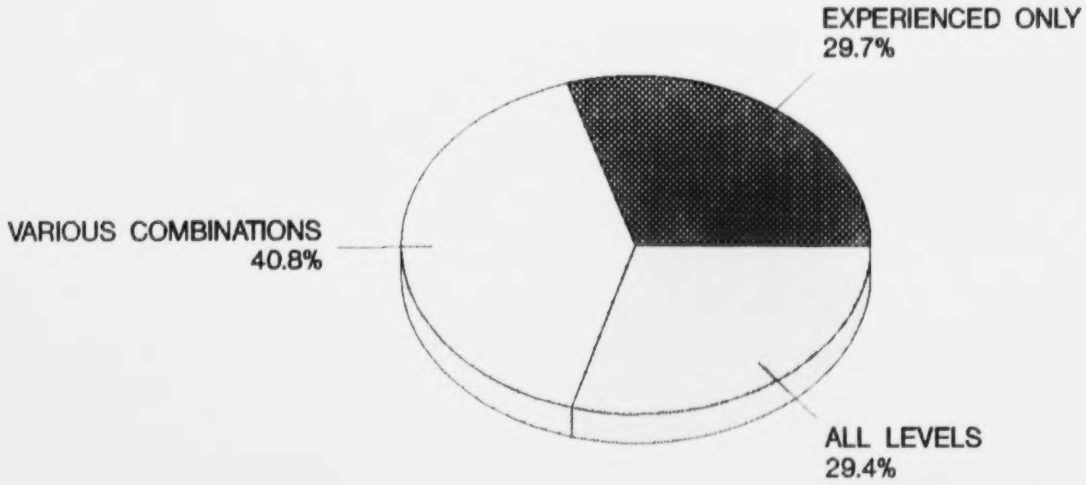


FIGURE IV-6

EXPERIENCE LEVEL OF MANAGERS SENT TO ALL SHORT COURSE PROGRAMS



As indicated in Figure IV-6, the pattern of utilization of short course programs is quite different. For example, about 30% of all firms using short courses for their managers send only experienced managers, and an equal number of companies send managers of all experience types to short courses. There were no differences in the experience level of managers sent to university short courses versus short courses provided by others. Thus, as in the case of management level, the short course is a format utilized by a broad base of manager types while the university residential and executive MBA programs are largely restricted, not only to top- and upper-level managers, but to those with experience in their current positions.

Manager "Quality" and the Utilization of Executive Education Programs

The tendency of firms to send "fast-track" managers versus managers making normal career progress to executive training programs is illustrated in Figure IV-7. Once again, these results indicate that university residential and executive MBA programs are most heavily utilized by firms as a source of training fast-track, high-potential managers. For example, slightly less than 40% of all firms using university residential programs report that only "fast-track" managers are sent these programs. In addition, over 40% of firms using executive MBA programs send only "fast-track" managers. On the other hand, about 50% of the firms using either of these two program types send both "fast-track" and managers making normal progress, and roughly 10% of users only send those managers making normal progress.

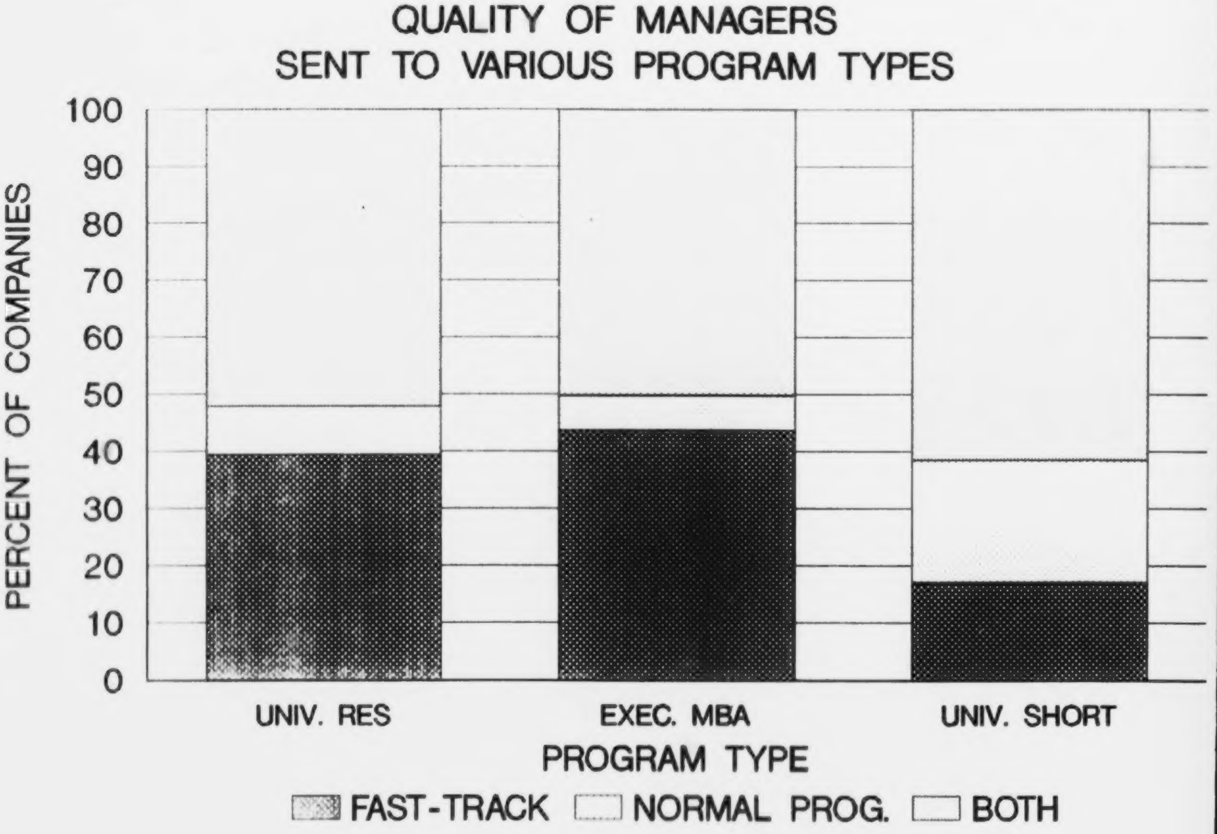
Consistent with the results described above, the perceived quality of managers makes much less difference in the firm's utilization of short course programs. Specifically, less than 20% of firms using short courses (both university developed short courses and short courses developed by others) send only fast-track managers, and about 60% send both types of managers.

Summary and Implications

In general, the companies in our sample were much more likely to send managers perceived as having high potential to the university residential and executive MBA programs. This criteria was much less important in selecting managers to attend short course programs.

The pattern emerging from all three of these participant characteristics is one of investment in higher-level, experienced, high-potential managers in the university residential programs and in the executive MBA programs and a more universal

FIGURE IV-7


QUALITY OF MANAGERS
SENT TO VARIOUS PROGRAM TYPES
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
UNIV. RES
EXEC. MBA
UNIV. SHORT
PROGRAM TYPE
FAST-TRACK
NORMAL PROG.
BOTH

utilization of short course programs for managers of all levels, experience and quality. Cost is clearly an important dimension of these patterns. For example, as indicated in Section III, the average cost of university residential programs is roughly 10 times, and the average cost of executive MBA programs is roughly 20 times, the average cost of a short course program. The allocation of training resources to longer-term, relatively-expensive programs is done more selectively and is concentrated among managers already in high levels and with long and successful track records.

There are several implications of these results for those concerned with the development and marketing of university-based executive education. First, university residential and executive MBA programs tend to serve the same markets. Their formats are so different that they could not be considered directly competitive but they do serve the same segment of the management education market.

Second, in order to be responsive to the current market, university residential and executive MBA programs should be targeted to high-level, high-potential, experienced managers. However, these results may also point to an opportunity for universities to develop programs targeted to lower level, less experienced managers, particularly in the university residential program area. The expense and long-term commitment associated with executive MBA programs would significantly diminish the appeal of broader-based executive MBA programs but university residential programs might be designed to serve the needs of lower level, less experienced high potential managers. At present, these managers are rarely served by university residential programs but, with cost reduction efforts and appropriate curriculum development, they do represent a potential growth market.

Third, there is little observable difference in the markets served by short courses developed by universities versus short courses developed by others. Both are attractive to the entire spectrum of management. They serve a much less segmented market in terms of manager characteristics and seem to offer a format in which a wide range of subjects can be tailored for presentations to a wide range of audiences, and at a relatively modest cost.

V. THE PROGRAM/PARTICIPANT DECISION-MAKING PROCESS

The previous section described the characteristics of managers attending various types of executive education programs. In many respects, the characteristics of the managers sent is a consequence of two related decisions being made within firms. One is a decision regarding whether or not to use a formal executive education program and, if so, what type of program should be used. The other decision concerns which managers should be sent to which program types. These two decisions are not necessarily made in this temporal order but, together, they result in the basic patterns of program utilization described in the previous section.

In this section, we examine how these two decisions -- which program to use and which managers to send -- are made using data from the mail survey. We begin by considering the factors influencing the decision to use an executive education program and which type of program to use. This decision is affected by the information available to the firm regarding executive education programs, the expected outcomes of attending executive education, and the factors considered in selecting particular program types. Our analysis of each of these factors is described in the following sections. How firms make decisions regarding participant selection is considered next by describing the nomination and approval process for each program type.

Sources of Information Regarding Executive Education Programs

Companies obtain information about executive education programs from numerous sources. As indicated in Figure V-1, brochures and mailings were the most likely sources of information for all program types: over 90% of the companies in our sample using each program type learned about the programs through brochures. Information concerning short course programs was obtained through brochures among 99% of users, while slightly fewer users (92%) of longer, university programs obtained information from brochures and mailings. This reliance on printed promotional materials is consistent with earlier studies (e.g., Schrader 1985).[10]

The recommendations of past participants and other companies are also important sources of program information. The recommendation of past participants was consistently the second most-cited source of program information in this study. About

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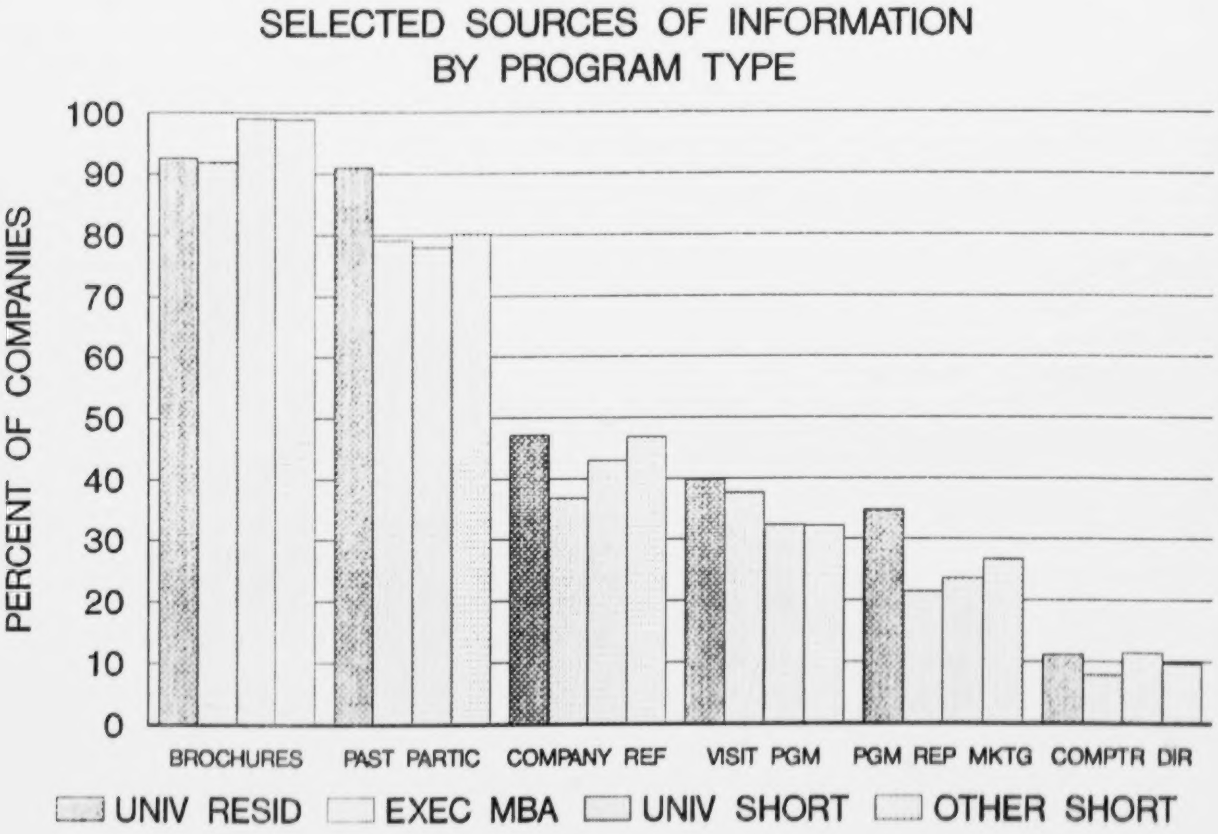
[10] A.W. Schrader, "How Companies Use University-Based Executive Development Programs," Business Horizons, March/April 1985, pp.53-62.

FIGURE V-1


SELECTED SOURCES OF INFORMATION
BY PROGRAM TYPE
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
BROCHURES
PAST PARTIC
COMPANY REF
VISIT PGM
PGM REP MKTG
COMPTR DIR
UNIV RESID
EXEC MBA
UNIV SHORT
OTHER SHORT

80% of the users of university short courses, non-university short courses and executive MBA programs mentioned past participants as sources of information and just over 90% of university residential program users employed these recommendations. In addition, referrals by other companies were reported by approximately 35-45% of executive education users.

Although not reported in this figure, we also obtained information on other information sources. Additional published information, in the form of source books was used by 30-50% of the users of various program types. Although about 30% of executive MBA users relied on this resource, approximately 45% of university residential and short course users employed this method of information gathering.

In contrast to printed program brochures and source books, computerized directories were utilized by a very small proportion of companies. Approximately 10% of the users of each program type learned about programs in this way.

Face-to-face contact between company representatives and program representatives provides another source of information regarding executive education programs. Longer university programs are those most likely to be visited by companies. Although just over 30% of short course users visited programs, nearly 40% of longer, university program users visited programs. In addition 35% of university residential program users reported visits to the company by program representatives. Only about 25% of short course users reported visits by program representatives.

Overall, brochures and the recommendations of previous participants serve as the major sources of information for firms selecting executive education programs The heavy reliance on printed materials reflects the practice, on the part of universities and others offering executive education programs, to concentrate their marketing efforts on this single, but seemingly effective medium. Little is known about alternative methods of marketing executive education but there appears to be some room for experimentation with other approaches such as advertizing in industry and trade journals. In any case, the current reliance on brochures makes clear the importance of careful attention to the content and format of these marketing instruments as well as to evaluations of their effectiveness.

Expected Outcomes from Executive Education Programs

The data in Figures V-2 and V-3 illustrate the results of our analysis of the reasons offered by firms for sending executives to each program type. Figure V-2

FIGURE V-2

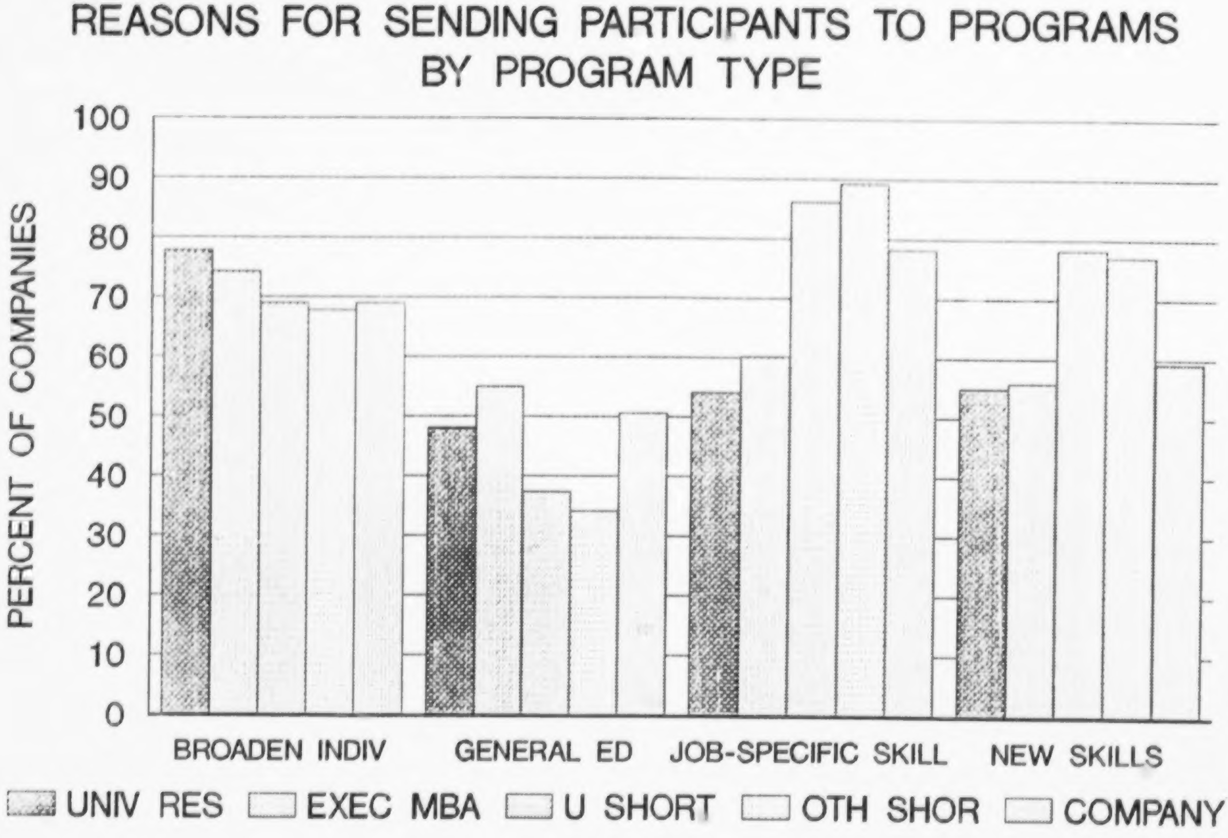
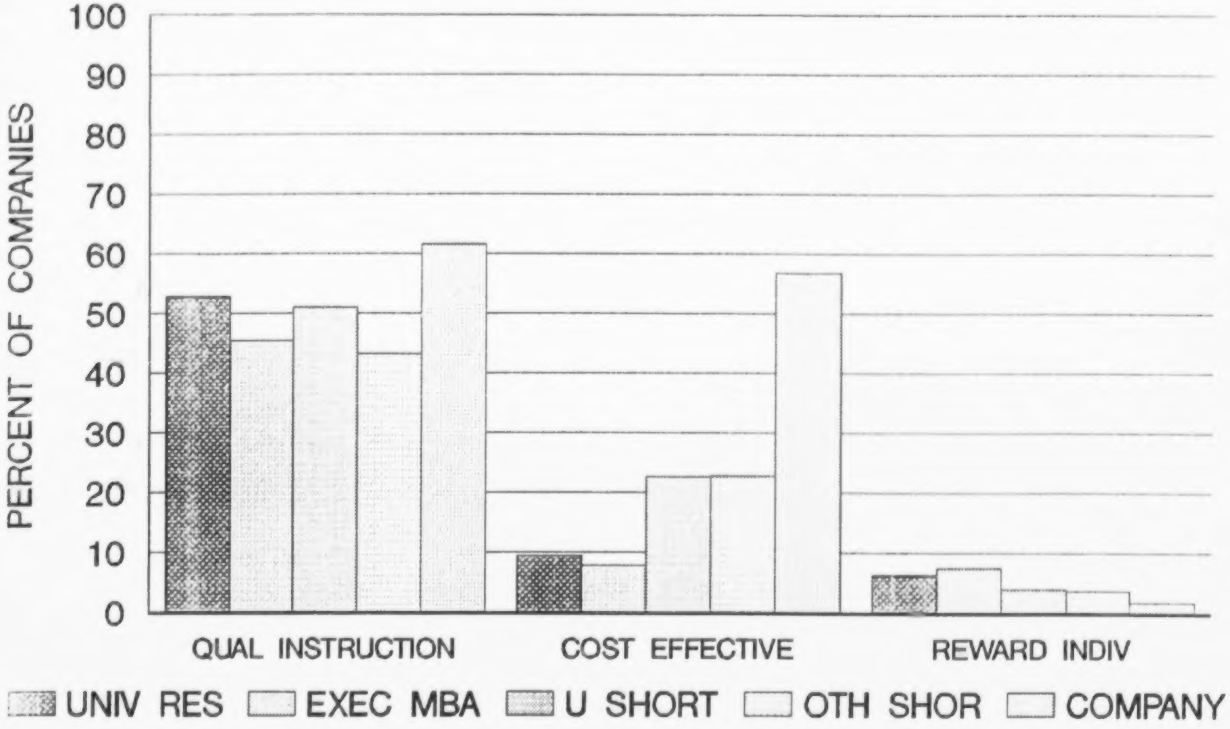

REASONS FOR SENDING PARTICIPANTS TO PROGRAMS
BY PROGRAM TYPE
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
BROADEN INDIV
GENERAL ED
JOB-SPECIFIC SKILL
NEW SKILLS
UNIV RES
EXEC MBA
U SHORT
OTH SHOR
COMPANY

FIGURE V-3

REASONS FOR SENDING PARTICIPANTS TO PROGRAMS BY PROGRAM TYPE



suggests that firms hold very different expectations for alternative program types. The two longer-term university-based programs, university residential and executive MBA programs, are expected to accomplish fundamental educational objectives. The most commonly cited reason for sending executives to these two program types was "broadening the individual". This is both a difficult to measure and an ambitious expectation. It is conceivable that an executive MBA program might have such a profound effect on the executive but this seems beyond the scope of most university residential programs, most of which are only 1-2 weeks long. When combined with the finding that almost 70% of the firms using short courses indicated that "broadening the individual" was a reason for sending executives to short courses, it appears that firms may have exceptionally high expectations for "life changing" consequences of program attendance.

The second major pattern in Figure V-2 is the use of short courses and company-specific courses as the source of new and job-specific skills. Almost 90% of the users of short courses indicated that these programs were used to provide specific skills and 77% expected short courses to provide participants with new skills. In contrast, only 55-60% of the users of long-term university programs mentioned these programs as the source of new and/or job-specific skills.

Acquisition of a general management education was a less commonly cited reason for sending executives to these programs. About 35% of the short course users considered general educational a primary purpose, whereas over 50% of companies using executive MBA programs considered general education a primary purpose of the program.

Although not detailed in the table, interaction with other executives was mentioned by 30-50% of program users. About half of company-specific program users considered interaction a primary purpose of executive education, but only 35-40% of the longer-term university-based program users and only 30% of short course users considered interaction with other managers to be a primary objective of executive education. This contrasts with participant surveys (e.g. Schrader, 1985) in which the opportunity to interact with executives from other firms is offered as a major reason for attending.[11] This may reflect a difference in the perspective of attendees who may focus on the experience of participating in the program as opposed to human resource managers (those completing the questionnaire) who may focus on more concrete program outcomes.

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[11] Op cit

As shown in Figure V-3, cost-effectiveness was cited by 57% of company-specific program users as a primary reason for using that type of program. However, cost-effectiveness is not an important factor in the selection of other program types. For example, slightly over 20% of the users of short courses considered cost-effectiveness a primary reason for using these programs and less than 10% of executive MBA users and university residential program users listed cost-effectiveness as a primary reason for using these programs.

Quality of instruction was more uniformly mentioned as a primary reason for using a particular program type. Although somewhat more important for company-specific program users (62%), roughly one-half of the users of all other program types considered instructional quality to be a primary reason for using a given program type. Specifically, 46% of executive MBA users and 53% of university residential program users consider instructional quality a primary reason for use. The quality of the instruction was a primary reason for the selection of university short courses among 51% of companies, but only 43% of companies using non-university short courses cited the quality of instruction as a primary reason for using that type of program.

Our results also indicate that executive education is rarely used primarily to reward executives. However, companies cited reward as a primary reason slightly more often for using those programs that can be considered more prestigious -- university residential and executive MBA --than they did for short courses or company-specific programs.

Reasons for Not Using Executive Education Programs

For firms indicating that they did not use a given program type, a separate set of questions was asked regarding their reasons for non-use. The results of our analysis are shown in Figures V-4 and V-5 for university residential, executive MBA and all short courses. Questions regarding the non-use of company-specific programs were not included because those firms without in-house programs are rare and the reasons for a firm's lack of internal programs are likely to be quite different from reasons for non-use of external programs.

FIGURE V-4

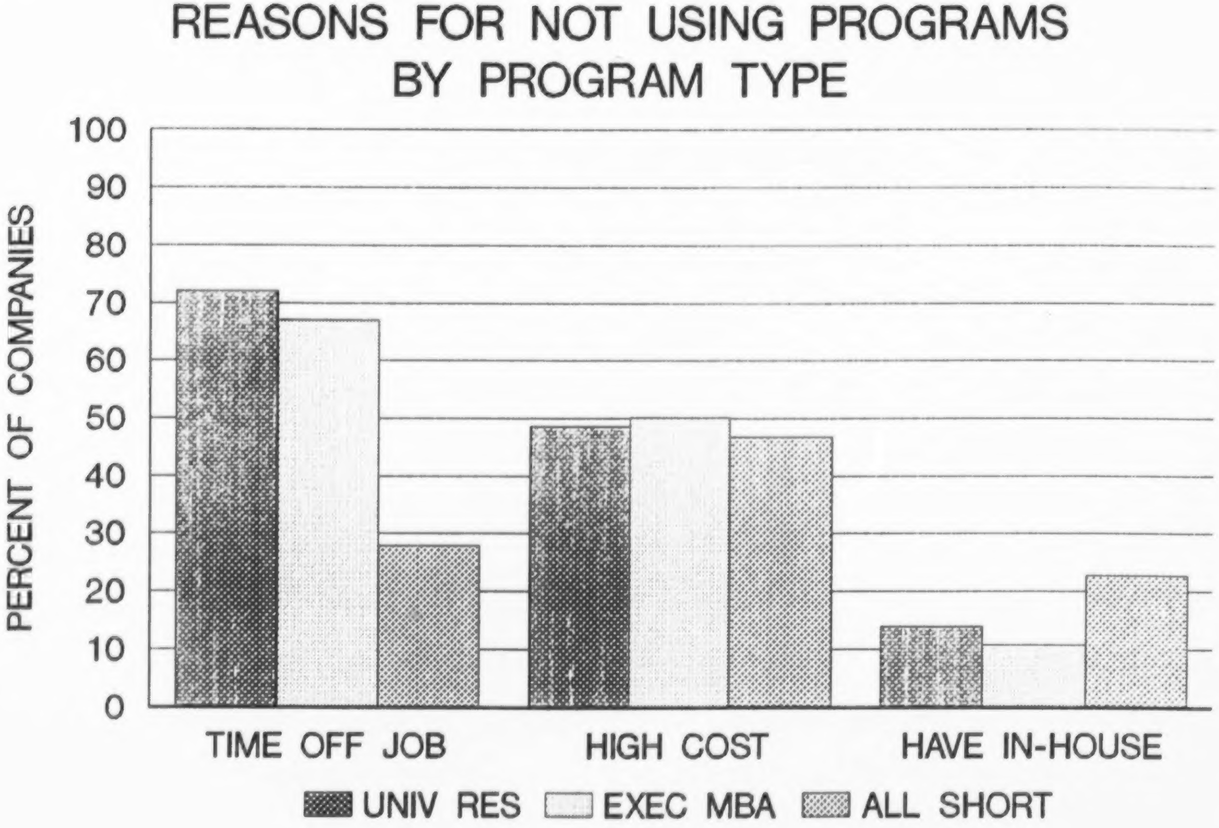
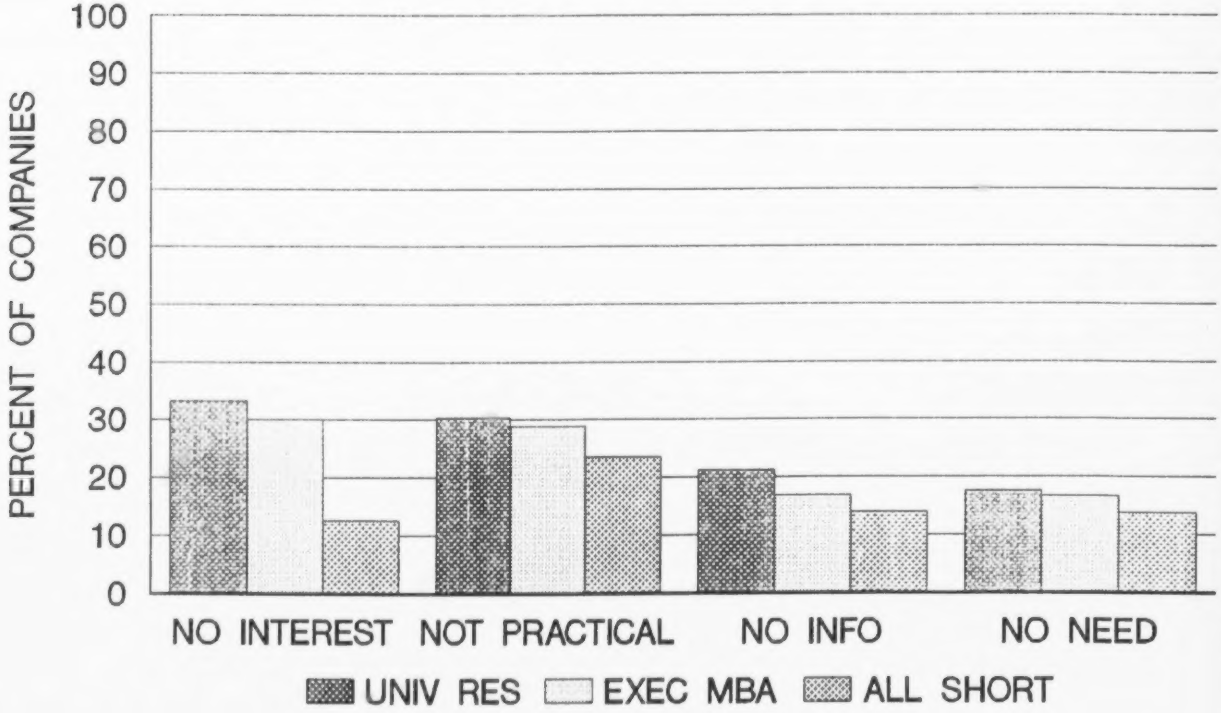

REASONS FOR NOT USING PROGRAMS
BY PROGRAM TYPE
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
TIME OFF JOB
HIGH COST
HAVE IN-HOUSE
UNIV RES
EXEC MBA
ALL SHORT

FIGURE V-5

REASONS FOR NOT USING PROGRAMS BY PROGRAM TYPE



As shown in Figure V-4, the primary reasons for non-use across all program types are costs, the related concern of time away from work and lack of interest. The first, high cost, is a reason cited by about 50% of all non-users of all three program types. The closely related issue of time away from the job is the most important reason cited for the longer-term university programs, but is much less significant for decisions regarding the use of short courses. The remaining frequently cited reasons for non-use are lack of interest or the perception that the programs are not practical. Figure V-5 shows that roughly 30% of the firms not using university residential or executive MBA programs indicate that they have no interest in the programs and that they are not practical.

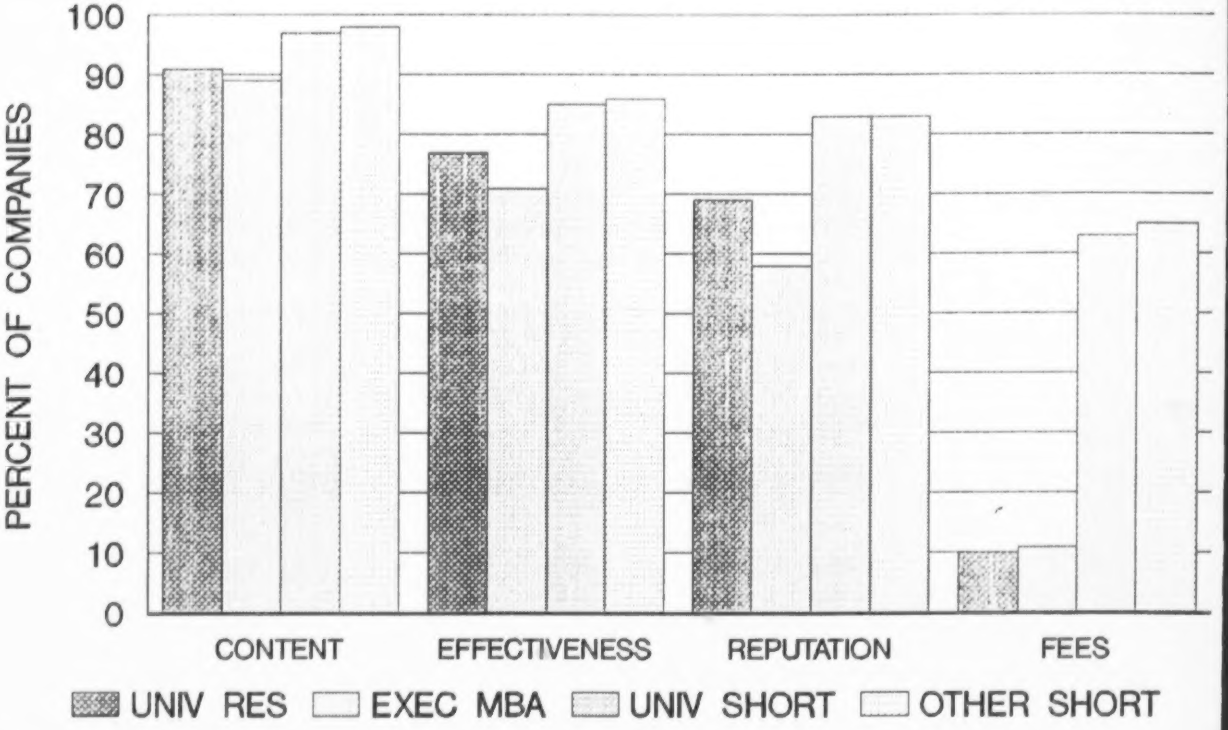
A notably small number of non-users indicate that they have competing programs in-house. Only 22% of those not using short courses, the programs most likely to compete with in-house programs, indicated that the presence of in-house programs was a primary reason for their decision not to use short courses. This suggests that, despite the fact the company-specific programs are increasingly popular, they are not frequently seen as in direct competition with external programs, even among firms that do not use these external programs.

Factors Influencing the Decision to Use a Particular Program

Our questionnaire also obtained information on the factors used by the company to reach a decision regarding the use of a specific program. As shown in Figure V-6, the most frequently considered factor in selecting any executive education program is its content. About 90% or more of the users of each program type consider this factor to be important in selecting a particular program within a program type.

The perceived effectiveness of the program and its reputation are equally important, and cited by over 80% of short course users. Effectiveness and reputation were slightly less important in the selection of a specific university residential or executive MBA program. Although not shown in Figure V-6, we also obtained information on the importance of the reputation of the program sponsor (e.g., the university or other organization responsible for the program) as opposed to the reputation of the program itself. The pattern of responses by program type was identical to the findings for program reputation. However, the frequency that firms cited sponsor reputation as an important factor in choosing a program was consistently 10-15 percentage points less than the frequency with which firms indicated that program reputation was an important factor. Thus, although the reputation of the program

FIGURE V-6



MAJOR FACTORS IN DECISION TO USE SPECIFIC PROGRAM BY PROGRAM TYPE sponsor is important, the reputation of the specific program is even more important in selecting a particular program.

Finally, program fees are a major factor in selecting a particular short course program for over 60% of users, but cost is rarely an important factor to users of longer university programs (about 10%). In particular, only about 10% of the users of longer-term university programs considered cost an important determinant of the specific program to be selected. This may indicate that the variation in costs is larger among short course programs for similar quality so that shopping around is worthwhile. Alternatively, it may simply reflect that once a firm has decided to invest the executive's time and considerable company dollars in a relatively long-term program, that content and quality are much more important than cost.

We also solicited information on factors considered by firms other than characteristics of the program itself. Although not reported in Figure V-4, we found that the needs of individual participants were often taken into account when choosing a program. This is particularly true in the case of short courses in which 95% of the firms indicated that the individual's needs played an important role in choosing a specific program. The preferences of individual participants was also important (57%) in the selection of short course programs. This is also true of executive MBA programs for which 91% of the user firms indicated that individual needs played a role in the selection of a program. However, the expressed preferences of the individual manager was less frequently mentioned (32%) as a factor in the selection of a specific executive MBA program. University residential program selection is even less dependent upon participant preferences (17%). In addition, while regional convenience was mentioned by approximately 55-75% of short course and executive MBA users it was cited as a major factor in program decision by less than 20% of university residential program users.

These findings have a number of implications for the marketing of executive education programs. The emphasis placed on content in selecting a program is not surprising but reinforces the importance of being responsive to the needs expressed by companies for training in specific areas. The role of perceived effectiveness and the related concept of a program's reputation suggest that new programs can be expected to take some time to become successful in order to acquire a reputation as a high-quality, effective program. In general, a firm's decision regarding program use is affected by the firm's perception of the needs of its managers. The manager's own preferences, however, are less important, particularly in the choice of university residential programs. Finally, the market for short course programs appears to be much more cost sensitive than either university residential or executive MBA programs. Although cost and the related issue of time away from work are important determinants of the decision to use any program, given that the decision to use a program type has been made, the choice of a particular program from among university residential courses and the choice among executive MBA programs is not significantly affected by cost. For short courses, however, the cost of the program does influence the specific program choice.

Participant Selection Process

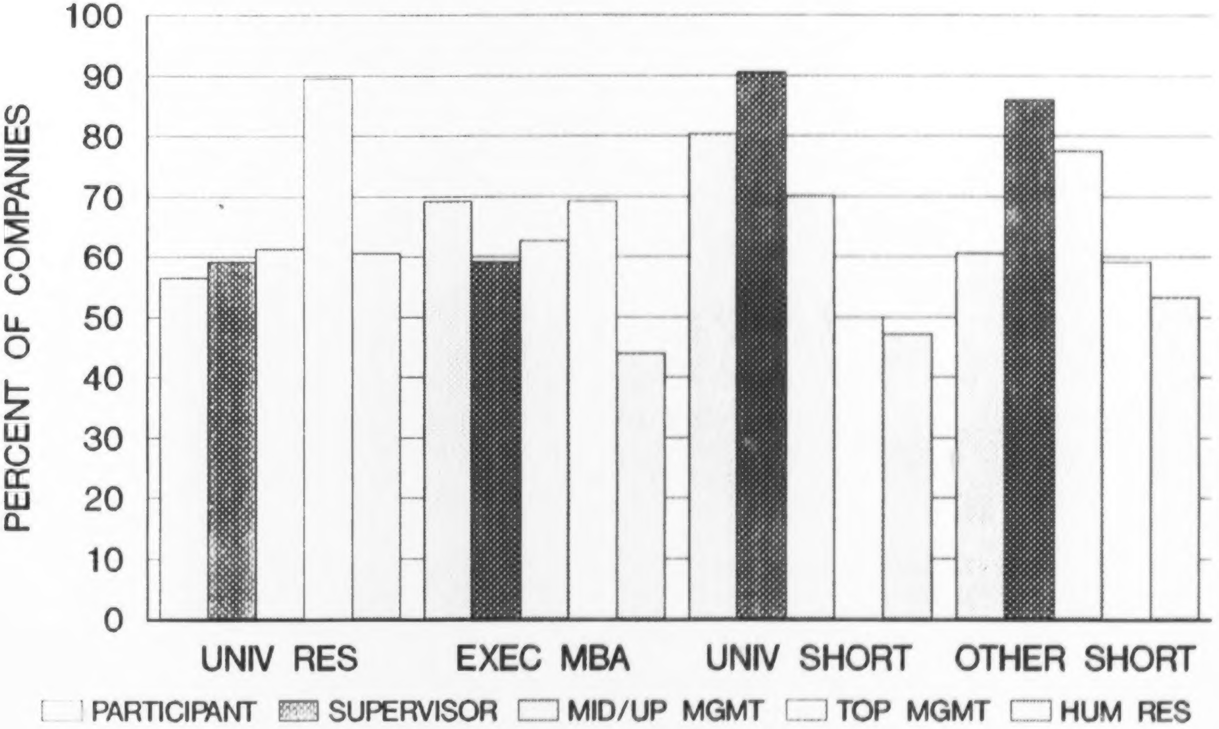
Our analysis of the process used by firms to select participants to the various executive education program types focuses on the management levels involved in nominating and approving attendance. The process of selecting individuals to attend executive education programs varies considerably across companies. A broad mix of the management levels are involved in both the nomination and the approval process and the levels of management vary by program type.

Of the companies that use a particular program type, figures V-7 and V-8 indicate the percent that involve various levels of management in the nomination and approval process. Top management is almost always involved in both the nomination and the approval of executives sent to university residential programs. For example, among users of university residential programs, top management is included in the nomination process in 90% of the firms surveyed and top management approves attendance in these programs in 86% of the firms. On the other hand, all levels of management --including the participant and the human resources manager -- are involved in the nomination of executives to attend university residential programs in about 60% of the firms using this type of executive development program. Approval for participation, however, excludes the participant in all of the firms surveyed.

The pattern of approval for executive MBA programs is very similar to the approval process for university residential programs. Top management is almost always involved. However, the process of nominating managers for executive MBA programs is equally spread among the various levels of management.

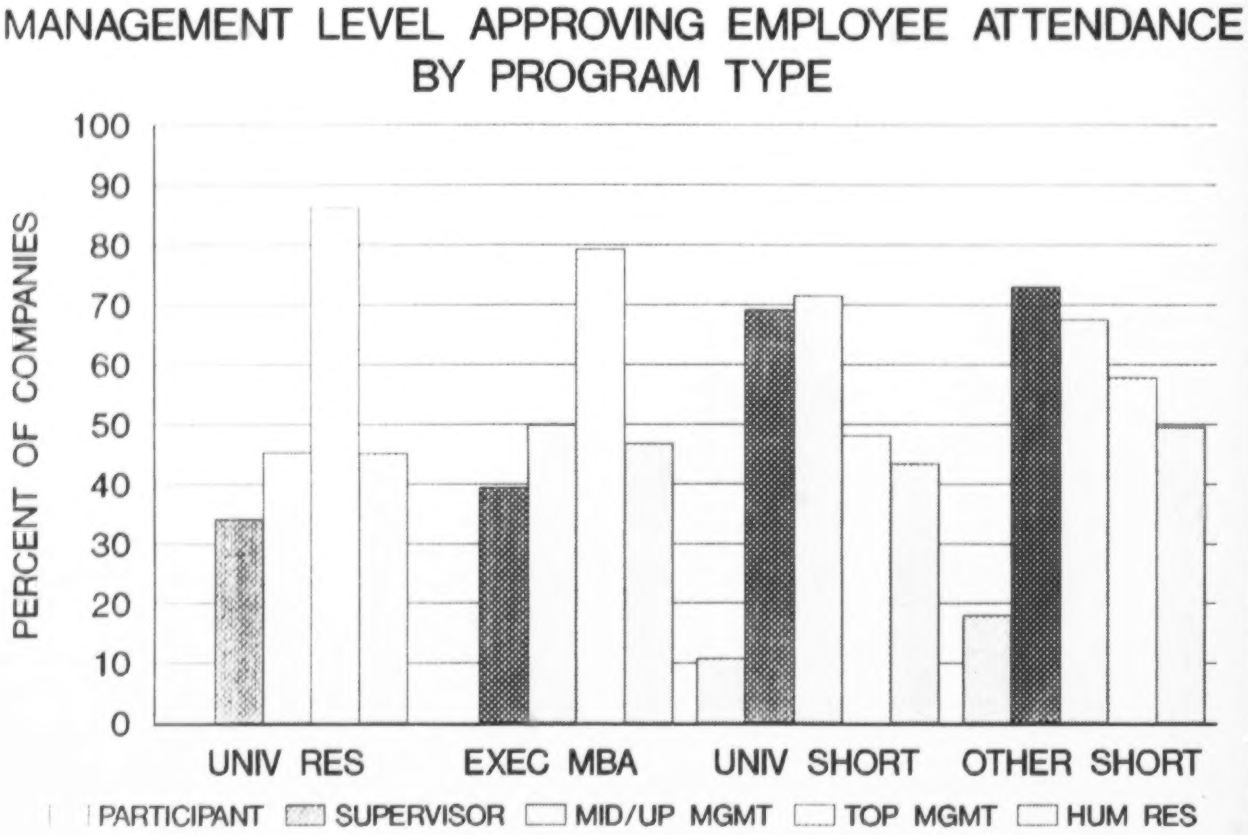
In the case of short course programs, both university and other short courses, the number of firms citing involvement by upper levels of management declines in favor of the participant and his or her immediate supervisor. For short courses, the nomination is frequently made by the individual wishing to attend and the approval for attendance is most frequently made by the immediate supervisor and/or middle and upper management. In a minority of firms -- about 10% for university-sponsored and nearly

FIGURE V-7



MANAGEMENT LEVEL NOMINATING EMPLOYEE ATTENDANCE BY PROGRAM TYPE

FIGURE V-8



MANAGEMENT LEVEL APPROVING EMPLOYEE ATTENDANCE BY PROGRAM TYPE

20% for non-university programs -- the participant is able to approve his or her own attendance to short course programs.

In general, the decision making process resulting in the selection of managers to attend executive education programs appears to be widely dispersed among various levels of management. The longer, more expensive programs are more likely to include top management in both the nomination and the approval process. Short course decision making is done at a lower level, but many firms (50-60%) indicate that there is still some involvement by top management. The large proportion of firms indicating that the individual participant is involved in the nomination process for all program types suggests that potential participants are critical decision makers and should be considered important targets of marketing efforts. In the case of university residential and executive MBA programs, the important role of top management in the approval process serves to add top management as a target for information regarding these two program types.

VI. ASSESSMENT OF PROGRAM EFFECTIVENESS

An integral component of a company's decision to use various executive development programs is the process it follows in assessing the effectiveness of programs used and the results obtained. In recent years, increased attention has been given to evaluating the effectiveness of employee education and training programs in general (Lusterman, 1985).[12] On the other hand, very little is known about how companies assess the effectiveness of executive development programs, and even less is known about the results obtained. Although it was not possible to obtain detailed information concerning program effectiveness through our mail survey, we were able to get some summary measures of relative program effectiveness, as well as information used to make these assessments. In this section we describe these results.

Various methods are used by companies to obtain feedback from executives/managers on their assessment of an executive development program. In Figure VI-1, we summarize the methods companies reported using for each of the different programs their executives/managers attend. As this figure indicates, companies appear to be much more involved in obtaining feedback on their in-house programs. For example, fewer than 10% of the companies reported that no feedback was obtained or that it was obtained informally for company-specific programs. This compares to approximately one-fourth to over 40% of the companies for other program types. Moreover, nearly 60% of the companies offering in-house programs reported that they generally have participants complete an evaluation form after the program, as compared to from 13% to about 30% for other program types. Discussions with participants and/or their supervisors was mentioned for each of the executive development programs by about 30-40% of all companies.

Based on the different formal and informal assessment approaches used, we asked respondents to estimate how much improvement there generally is in participants' job performance following participation in each of the different program types that their company uses. As indicated in Figure VI-2, the subjective views of these respondents suggests that the greatest gains are achieved through the more expensive university programs and through the more tailored in-house programs. Specifically, of the companies that use a particular program type, 21% reported that participants showed "much improvement" following participation in executive MBA and company-specific programs, and 15% indicated much improvement after university residential programs.

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[12] Op cit.

FIGURE VI-1

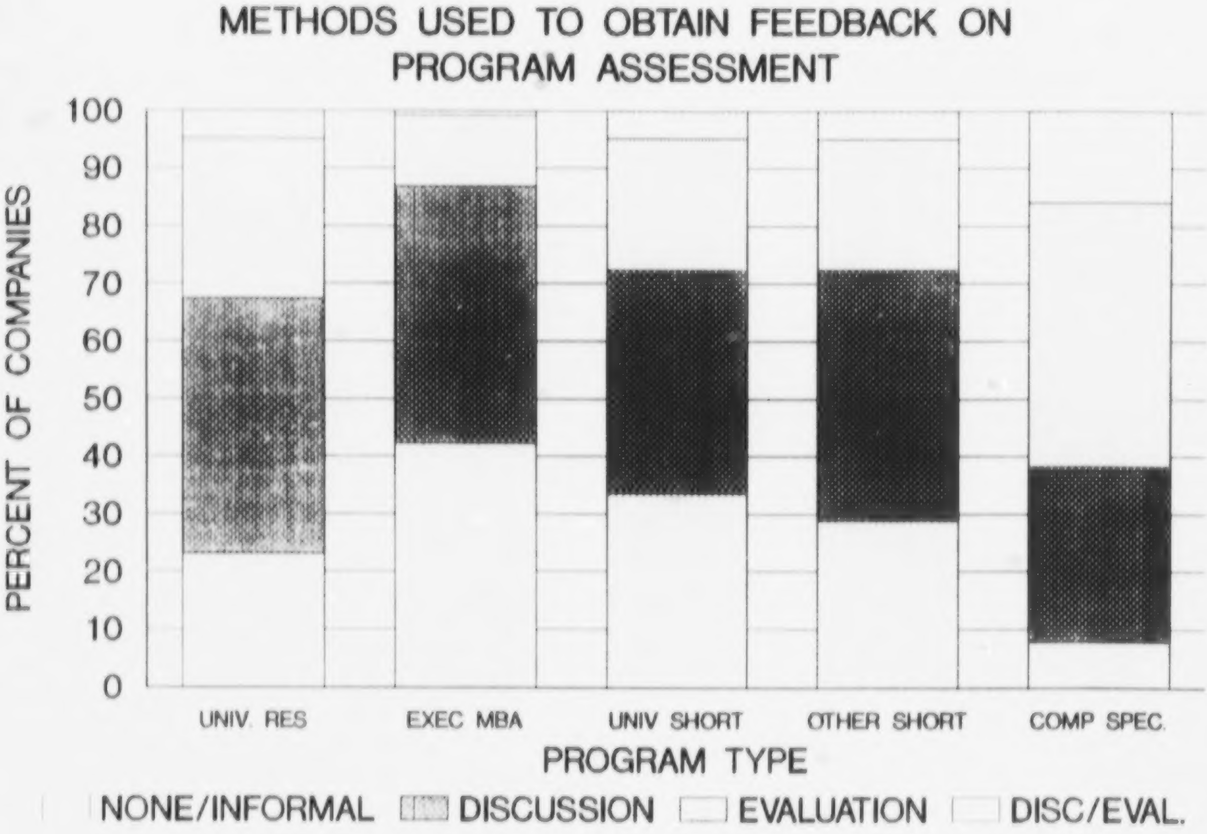
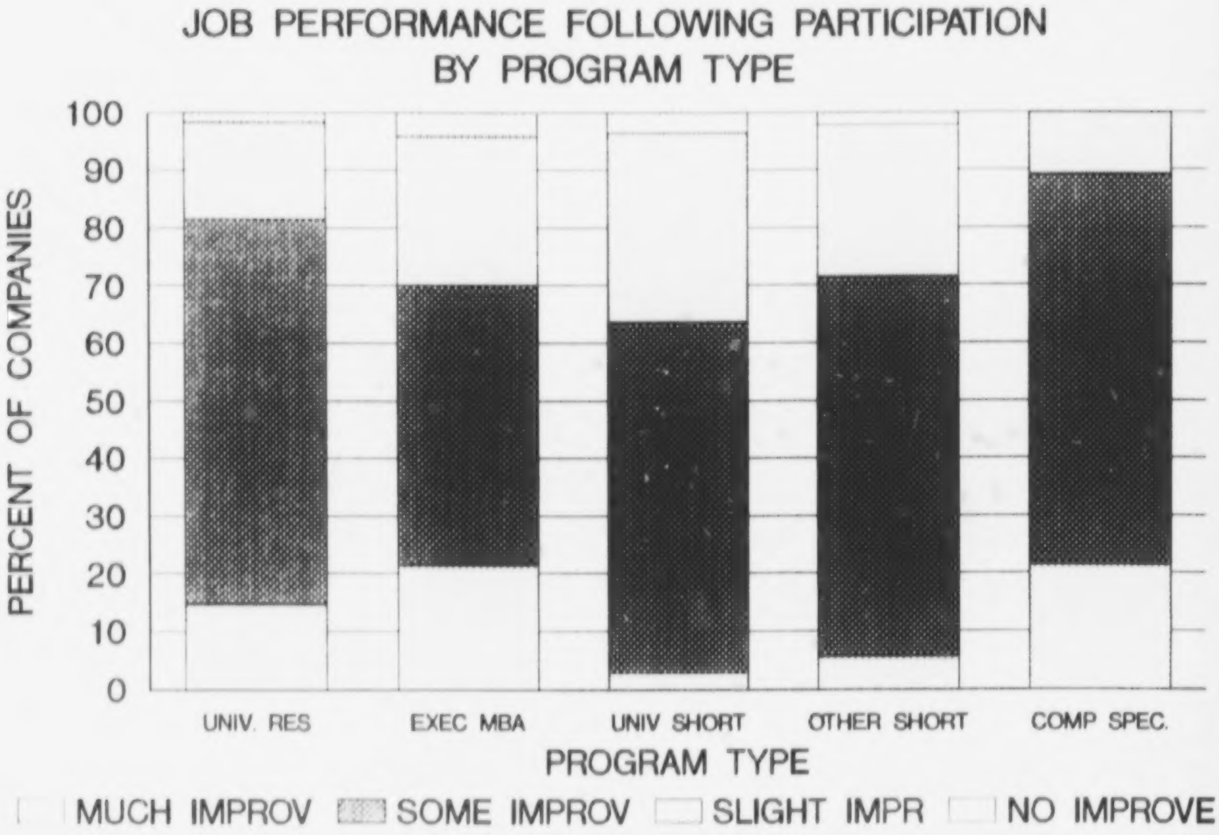

METHODS USED TO OBTAIN FEEDBACK ON PROGRAM ASSESSMENT
PERCENT OF COMPANIES
0
10
20
30
40
50
60
70
80
90
100
UNIV. RES
EXEC MBA
UNIV SHORT
OTHER SHORT
COMP SPEC.
PROGRAM TYPE
NONE/INFORMAL
DISCUSSION
EVALUATION
DISC/EVAL.

FIGURE VI-2


JOB PERFORMANCE FOLLOWING PARTICIPATION BY PROGRAM TYPE
PERCENT OF COMPANIES
0
10
20
30
40
50
60
70
80
90
100
UNIV. RES
EXEC MBA
UNIV SHORT
OTHER SHORT
COMP SPEC.
PROGRAM TYPE
MUCH IMPROV
SOME IMPROV
SLIGHT IMPR
NO IMPROVE

On the other hand, 5% or fewer indicated participants showed much improvement after attending short course programs offered either by university or non-university sources.

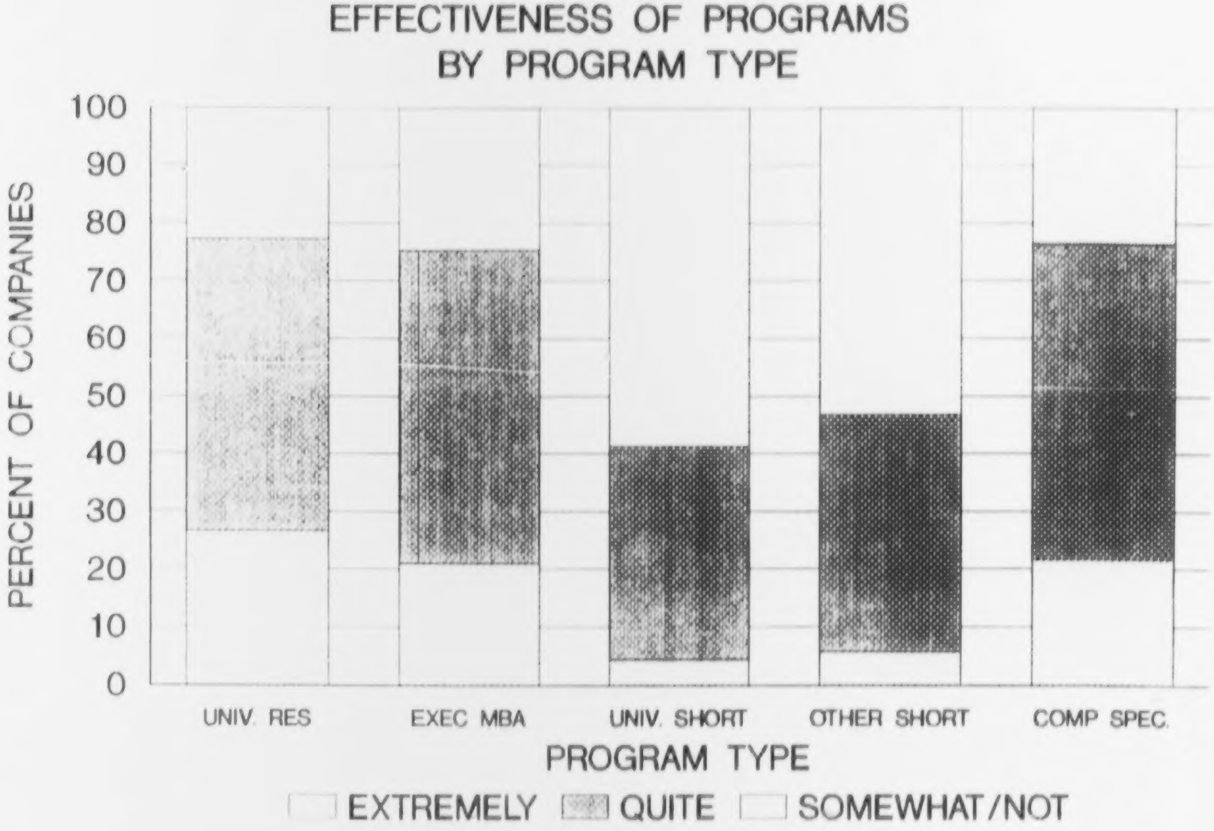
The view that company-specific programs and the more expensive university programs result in the greatest improvements in job performance is also generally supported after combining the first two response categories (i.e., by combining "much" and "some" improvement). Specifically, nearly 90% of the companies that use in-house programs indicated that participants' job performance showed much or some improvement following such programs and over 80% indicated similarly for university residential programs. On the other hand, because a relatively small percentage of companies reported that participants in executive MBA programs showed some improvement in job performance following the program, only 70% of the companies in total reported much or some improvement in performance after attending such programs. This is similar to the percentage of companies reporting much or some improvement following participation in non-university short course programs, which is in turn greater than the 64% of the companies that reported similarly for university short course programs.

In Figure VI-3, we provide information on the respondent's overall assessment of the effectiveness of each of the various executive development programs. In particular, we asked respondents to indicate for each of the different program types that their company used in 1986, how they would rate each based on the experiences of the managers/executives who attended the programs. Although the response categories included (1) extremely effective, (2) quite effective, (3) somewhat effective, and (4) not effective, because fewer than 1% of all companies reported that any of the program types were "not effective," we collapsed categories (3) and (4) into a single category.

The results reported in this figure are very consistent with the other results presented in this section. That is, the programs that are judged to be most effective are the more expensive and longer-term university programs and the in-house programs. For example, approximately three-fourths of all companies that used each of these types of programs rated them as being either extremely effective or quite effective. On the other hand, only approximately 40-45% of the companies that use either type of short course programs rated these programs as extremely or quite effective.

The results in this section provide a reasonably clear picture of the subjective views companies have towards various types of executive development programs. That is, based both on the greater efforts devoted to obtaining information to assess program effectiveness and in terms of the more positive results obtained, it appears that the

FIGURE VI-3


EFFECTIVENESS OF PROGRAMS
BY PROGRAM TYPE
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
UNIV. RES
EXEC MBA
UNIV. SHORT
OTHER SHORT
COMP SPEC.
PROGRAM TYPE
EXTREMELY
QUITE
SOMEWHAT/NOT

relatively longer-term university programs and the company-specific programs are viewed by companies to be the most effective. Whether the longer-term university programs are worthwhile from an economic standpoint depends, of course, on a more detailed assessment of the benefits in relation to the greater costs of these programs. Such an effort is beyond the scope of the present study.

VII. TRENDS IN CORPORATE USE OF EXECUTIVE DEVELOPMENT PROGRAMS

The previous sections have focused on corporate America's current use of executive development programs and their experiences with those programs. These results provide a very useful snapshot of the status of company use of various programs in 1986. However, in a market as dynamic as that for executive education programs, any snapshot, no matter how current, only tells a small part of the story. That is, in order to fully understand the current market and to make decisions on program offerings, one must have a good understanding of recent changes in the market and likely future changes. In this section, we provide detailed descriptive information from our survey data concerning recent and likely future trends in the use of various executive education programs. In Section VIII, we examine the types of companies that have changed, and are likely to change, their use of executive development programs.

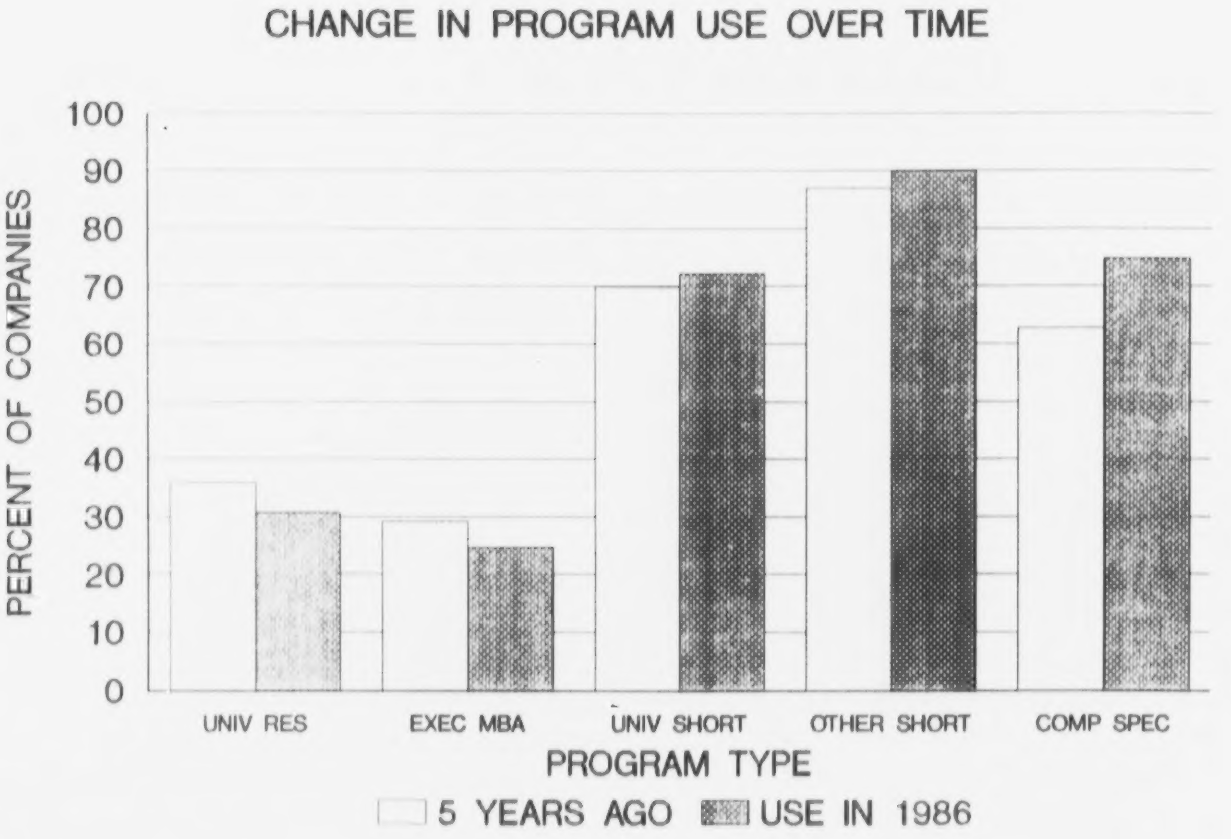
The results in this section focus on two 5-year periods. In particular, we discuss changes in use in 1986 from the period 5 years earlier, as well as expected changes in use over the next 5 years. Because of the great difficulty in obtaining precise quantitative data on use 5 years earlier or on projected use 5 years into the future, the results described below are based on qualitative summary measures of recent and expected trends. In addition, we present responses to open-ended questions on general trends and unmet needs in the market for executive/management education.

Changes in Program Use During the Past 5 Years

To get a general understanding of the nature of recent changes in corporate use of executive development programs, we begin with a simple comparison of the proportion of companies that used each type of program in 1986 with the proportion that used that program type 5 years earlier. As indicated in Figure VII-1, fewer companies are using longer-term university programs than 5 years ago, and more companies are using short course and company-specific programs. For example, our results indicate that 36% of companies with at least 1,000 employees used university residential programs in 1981, as compared to 31% in 1986, and that 29% used executive MBA programs in 1981, as compared to 25% in 1986.

On the other hand, there appears to be considerable growth in in-house programs. In particular, while 63% of these companies offered in-house programs in 1981, nearly 75% reported providing company-specific programs in 1986. This 12 percentage point increase represents a substantial change since the early 1980s. Although

FIGURE VII-1


CHANGE IN PROGRAM USE OVER TIME
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
UNIV RES
EXEC MBA
UNIV SHORT
OTHER SHORT
COMP SPEC
PROGRAM TYPE
5 YEARS AGO
USE IN 1986

other relatively brief executive development programs also appear to have experienced growth, this growth is considerably less. Specifically, over the period from 1981 to 1986, the percentage of companies that used university short course programs for their executives/managers increased from 70% to 72% and, for non-university short course programs, it increased from 87% to 90%.

In order to understand the stability of the market, it is important to decompose the change in likelihood of use in various ways to identify the proportion of companies that are switching from nonuser to user (or vice-versa) and the proportion that consistently remain as either users or nonusers. As indicated in Figure VII-2, the overall trends described above are produced by a relatively stable market for most programs in which only approximately 10-30% of the companies followed different use patterns for various program types in 1981 and 1986 (i.e., 10-30% of the companies used the program type in 1981 but not 1986 or vice-versa). There appears to be the least switching in use over time for non-university short course programs: only 7% of the companies used this program type in 1986 but not 1981 and only 4% used such programs in 1981 but not in 1986. This increase in likelihood of use of three percentage points accounts for the overall increase in the proportion of companies using non-university short course programs from 87% to 90% during this period.

On the other hand, there is considerably more switching in the use of company-specific and university-sponsored programs. The variation for company-specific programs is expected because the use of these programs grew considerably during the previous 5 years.[13] However, the reduction in the use of university residential and executive MBA programs appears to be the result of extensive switching over time. For example, for executive MBA programs, there are more companies that switched from use in 1981 to nonuse in 1986 than used such programs in both years. Viewed another way, if all companies that sent managers to these programs in 1981 also would have used them in 1986, then the percentage of companies that would have used executive MBA programs in 1986 would be 40% (instead of 25%), and the percentage of companies that would have used university residential programs would have been 46% (instead of 31%). Thus, it appears that longer-term university programs may serve a somewhat less stable market than other programs, both because they are currently being used by fewer companies than 5 years ago, and because the company base of persistent users of these programs is relatively small.

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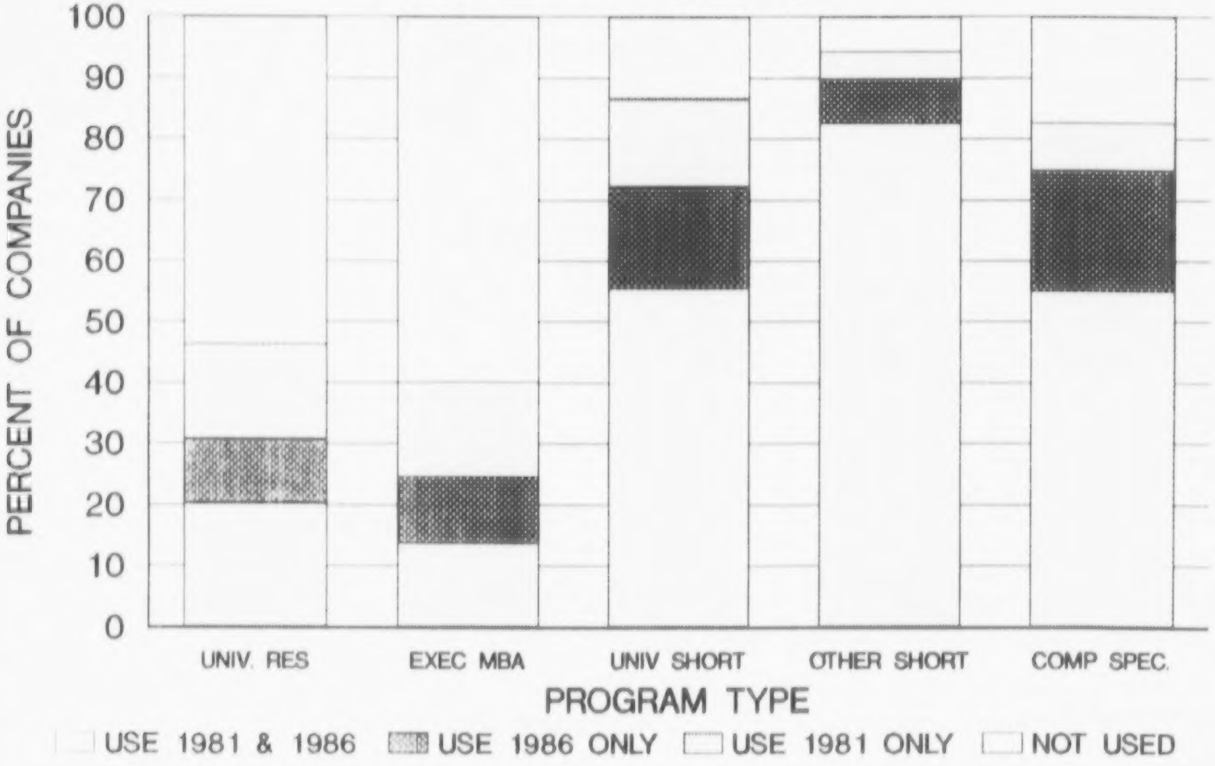
[13] It is interesting to note, however, that despite the overall growth in in-house programs, about 8% of the companies reported discontinuing the use of company-specific programs during this 5-year period.

FIGURE VII-2

CHANGES IN THE COMPOSITION OF COMPANIES THAT USE EXECUTIVE EDUCATION OVER TIME BY PROGRAM TYPE



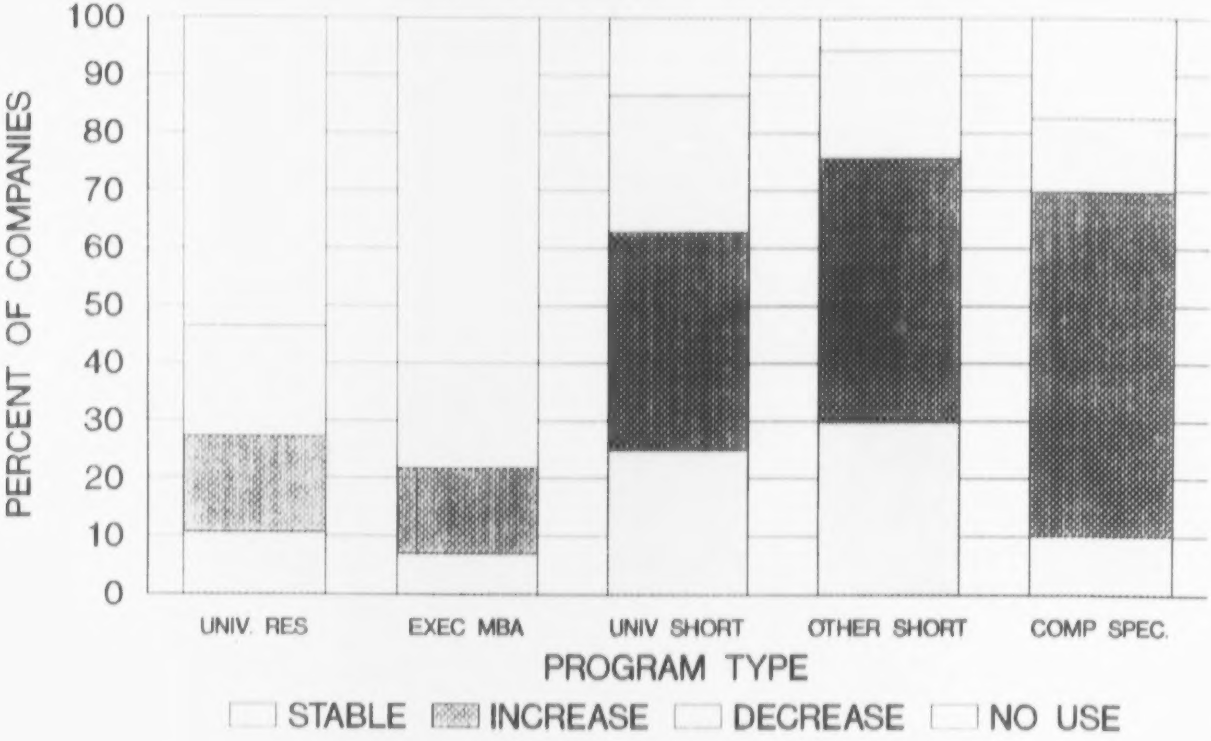
In Figure VII-3 we provide another perspective on the stability and growth of various parts of the market for executive development programs. That is, rather than considering stability in the context of a company's likelihood of use in two different periods, we instead consider stability and growth in terms of changes in the numbers of executives/managers sent to different program types. Specifically, we categorize companies into four different groups: (i) stable user of the particular program (i.e., used the program in 1986 and 5 years earlier and the number of participants sent remained about the same); (ii) increased user (i.e., number of participants sent increased in 1986 from 5 years earlier by at least 5%); (iii) decreased user (i.e., number of participants sent decreased in 1986 from 5 years earlier by at least 5%); and (iv) nonuser in both years. The results in this figure clearly support the recent growth in company-specific and short course programs. For example, in the 5-year period from 1981 to 1986, nearly 60% of the companies reported increased use of in-house programs, approximately 45% reported increased use of non-university short course programs and almost 40% reported increased use of university sponsored short course programs. This is in contrast to approximately 15% of the companies that reported increasing their use of either longer-term university executive education program.

Although the small proportion of companies that reported an increase in the use of university residential or executive MBA programs is in part due to the fact that these programs are used less frequently overall, it is important to note that the results are very similar even after adjusting for differences in nonuse. That is, if one excludes companies that did not use a particular program type in both years and focuses on changes experienced by companies that used the program in at least one of the two years, growth is clearly in the area of in-house and short course programs. Specifically, of companies that used a program during this period, nearly three-fourths reported increases in use of in-house programs from 1981 to 1986, slightly under one-half reported increases in either type of short course program, and approximately one-third of the companies reported increases in the use of the longer-term university programs.

The results in this figure also support the relatively small stable corporate base for longer-term university programs. Specifically, only 7% of all companies reported using executive MBA programs at approximately the same level in 1981 and 1986, and only 11% indicated similarly for university residential programs. On the other hand, because 50-60% of the companies did not use either of these programs in both years, there appears to be a very large pool of companies that have not exposed their executives/managers to longer-term university programs, which could possibly be a fruitful area for future marketing efforts.

FIGURE VII-3

USE TRENDS IN EXECUTIVE EDUCATION OVER PAST 5 YEARS BY PROGRAM TYPE



Expected Program Use During the Next 5 Years

In addition to understanding how the use of different executive development programs has changed in recent years, it is also very important to understand how companies expect that it will change in the near future. Below we describe how respondents see their use of different programs changing in the next 5 years and the reasons why.

In Figures VII-4 and VII-5, we indicate the percentage of companies that anticipate sending more participants (at least a 5% increase), about the same number, or fewer participants (at least a 5% decrease) in 5 years than they did in 1986. To determine whether there are different patterns between current users and nonusers, the results in Figure VII-4 correspond to the expectations for companies that are currently using a particular program type, and the results in Figure VII-5 correspond to the expectations of nonusers. As described below, these results strongly support the general trend of growth in in-house programs and short course programs relative to other programs, although the results also indicate growth in longer-term university programs as well.

As indicated in Figure VII-4, among current users, nearly 80% of the companies reported that they expect to increase their use of in-house programs in the next 5 years, and approximately 58% expect to increase their use of non-university short course programs. This compares to 50% for university short course programs, 45% for university residential programs, and 33% for executive MBA programs. Moreover, although not reported in this figure, almost 40% of current users reported that they expected very large increases --greater than 25% -- in the use of company-specific programs, and over 15% reported that they expected comparably large increases in the number of executives/managers sent to non-university short course programs. A much smaller proportion of current users reported that they expected very large increases in university programs. In particular, 9% of current users of university residential programs reported expecting a large increase in use of such programs, only 5% of current executive MBA users reported expecting a comparable increase in use of executive MBA programs, and 11% of users indicated that they expect large increases in the number of executives/managers sent to university short course programs. Fewer than 10% of the companies indicated that they anticipate a decrease in use of any program type during the next 5 years.

The results in Figure VII-5 for companies that do not use specific program types tell a very similar story. Specifically, among nonusers, 45% of the companies indicated

FIGURE VII-4

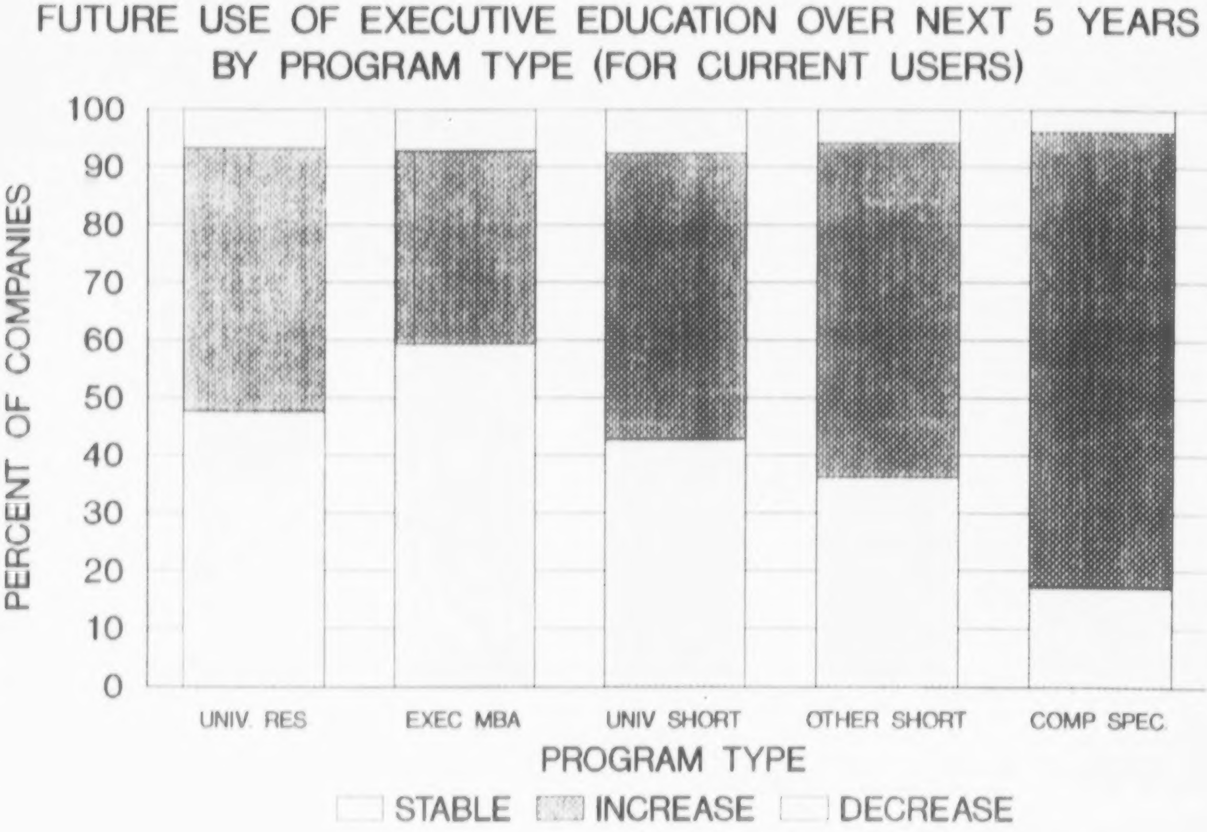
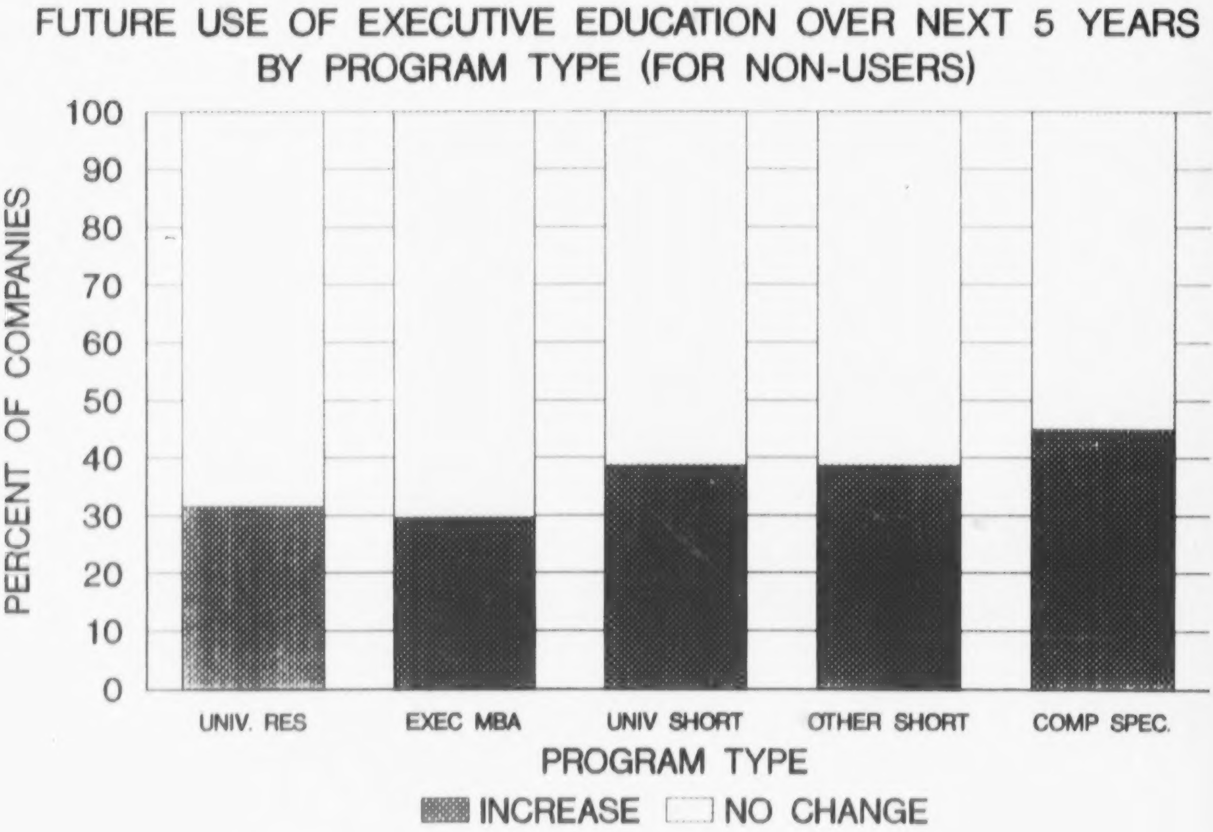

FUTURE USE OF EXECUTIVE EDUCATION OVER NEXT 5 YEARS
BY PROGRAM TYPE (FOR CURRENT USERS)
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
UNIV. RES
EXEC MBA
UNIV SHORT
OTHER SHORT
COMP SPEC.
PROGRAM TYPE
STABLE
INCREASE
DECREASE

FIGURE VII-5


FUTURE USE OF EXECUTIVE EDUCATION OVER NEXT 5 YEARS
BY PROGRAM TYPE (FOR NON-USERS)
PERCENT OF COMPANIES
100
90
80
70
60
50
40
30
20
10
0
UNIV. RES
EXEC MBA
UNIV SHORT
OTHER SHORT
COMP SPEC.
PROGRAM TYPE
INCREASE
NO CHANGE

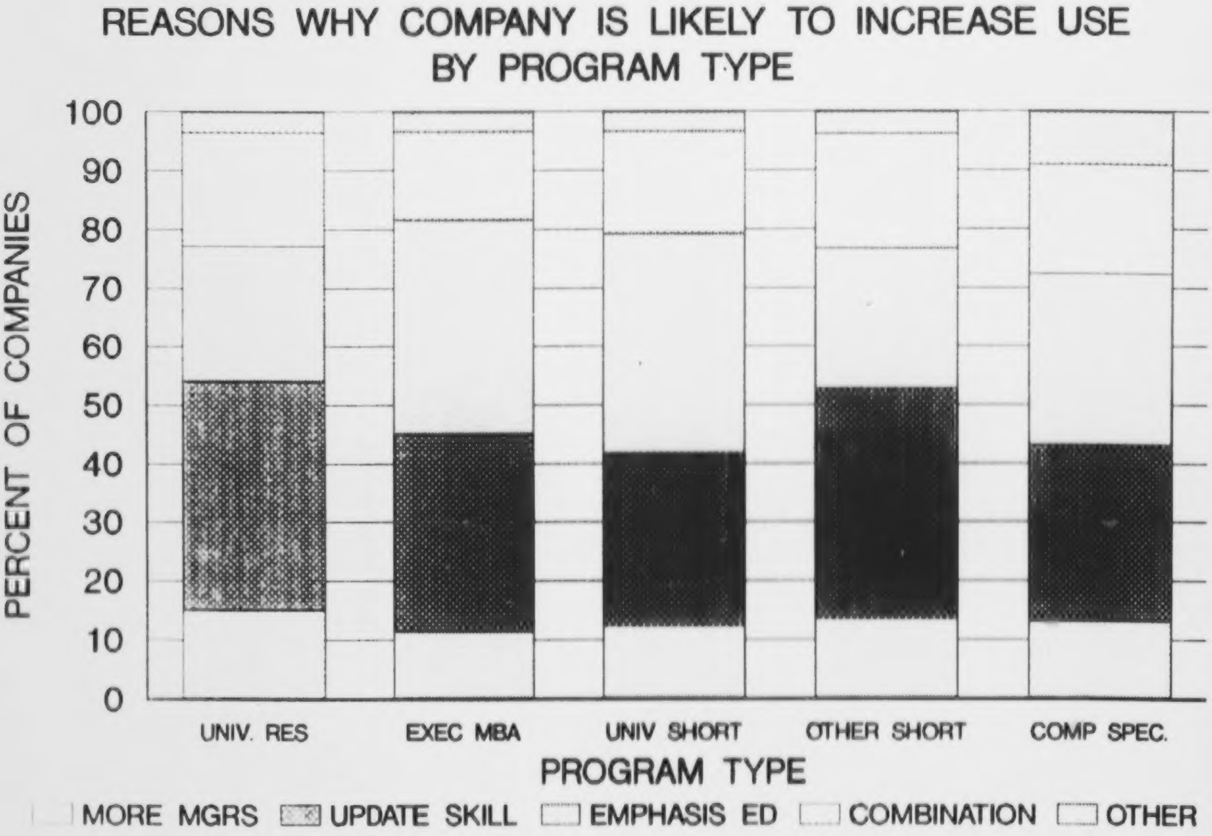
they would begin offering in-house programs for their executives/managers in the next 5 years, approximately 35% reported they expect to use short course programs, and slightly under 30% reported they expect to use some longer-term university management programs. Thus, the patterns of expected use over the next 5 years for current users and nonusers are very similar, and indicate that the major growth area will be in company-specific programs and short course programs, with somewhat smaller increases expected in longer-term university programs.

In order to better understand the factors underlying these expected changes in use of executive development programs, we asked respondents in the mail survey to indicate the major reason for the expected change. For expected increases in program use, we listed five potential reasons and asked the respondent to indicate which is the *major* reason for the increase. In particular, our list of reasons for increased program use included: (i) more executives/managers (i.e., company growing); (ii) program quality improving; (iii) need to update executives on changing concepts/skills; (iv) new corporate emphasis in executive/management education; and (v) program is becoming more cost effective. These results are summarized in Figure VII-6.

As this figure indicates, the major reasons for expected growth are not very different by program type. For example, of the companies that expect growth in the number of executives/managers sent to each given program type in the next 5 years, 10-15% reported that the major reason is general company growth and 30-40% reported that the major reason is to update executives/managers on changing concepts/skills. There are some differences, however, among program types in the percentage of companies that expect growth due to a new corporate emphasis on executive education programs. For example, nearly 40% of the companies that expect to increase their use of executive MBA programs or university short course programs indicated that it is due to a new corporate emphasis on executive development programs, as opposed to fewer than 25% for university residential and nonuniversity short course programs. As the figure indicates, 5% or fewer of the companies indicated that their reason for expected increased use is due to either improved quality of the program or that the program is becoming more cost-effective.

We also asked respondents to indicate the major reason for an expected decline in program use. Specifically, our list of six reasons for decreased program use included: (i) expect fewer executives/managers; (ii) program quality declining; (iii) everyone has attended available programs; (iv) programs becoming too expensive; (v) company programs will better meet needs; and (vi) program is becoming less cost-effective. Although these results are based on very small sample sizes -- because they are asked

FIGURE VII-6



REASONS WHY COMPANY IS LIKELY TO INCREASE USE BY PROGRAM TYPE only of companies that currently use a given program type and that expect to use less of that type -- and should therefore be interpreted with caution, they are quite interesting and suggest that the major reasons for expected reductions in program use differ somewhat by program type.

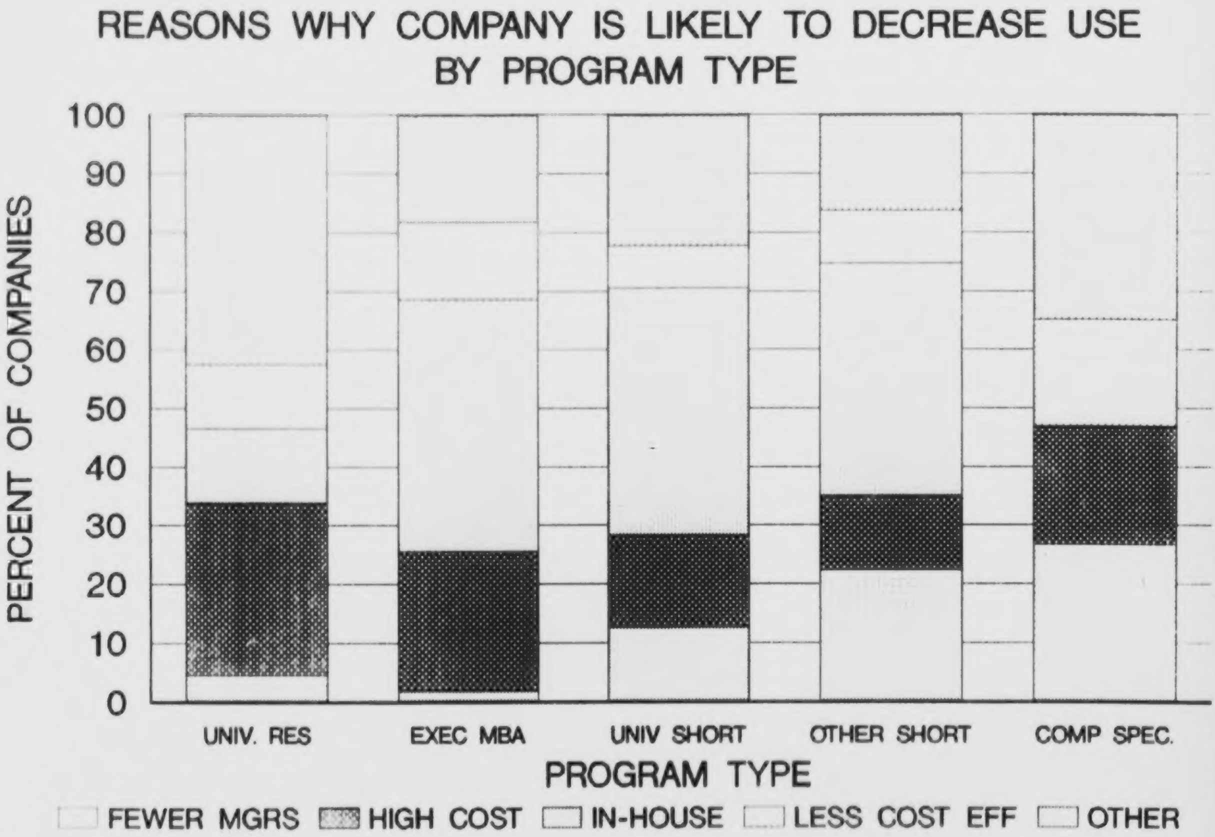
As indicated in Figure VII-7, the main reason for expected decreases in executive MBA programs and short course programs is the view that company-specific programs will better meet their needs. Specifically, 40-45% of the companies that expect to decrease their use of such programs indicated that the major reason was that in-house programs better met their needs. The most often mentioned reason (nearly 30%) for why use of university residential programs may decline in the future is that such programs are becoming too expensive. In fact, "high cost" and "less cost-effective" are frequently mentioned for anticipated decreases in use of longer-term university programs, as well as for the few companies that indicated their use of in-house programs would decline. Finally, companies often mentioned expecting to have fewer managers -- either because business is expected to decline, or because they are trimming the number of managers -- as a major reason for sending fewer executives/managers to in-house and short course programs, but very rarely for long-term university programs.

Other Trends and Unmet Needs

In an effort to better understand likely future changes in the market for executive education, our mail survey also offered respondents an opportunity to provide additional information in an unstructured format. In particular, we included open-ended questions regarding trends they expect in program topics, program types and participant characteristics. In addition, respondents were asked to describe the most useful and least useful executive education programs for their companies, as well as indicate what universities could do to better meet their needs. The information provided by those who answered these questions supports and elaborates upon the results of the structured questions concerning future use described above. Although the number of respondents for each of these items is relatively small, the information gained here is important because respondents with strong opinions and specific needs are likely to respond to this type of question.

We first briefly discuss expected participant trends for the next 5 years. Nearly one-fourth of the 135 companies responding to this item mentioned that they expect increased participation in executive education at all management levels. In addition, increased participation at specific management levels was mentioned often. For example, approximately one-third indicated that they expect increased participation

FIGURE VII-7


REASONS WHY COMPANY IS LIKELY TO DECREASE USE BY PROGRAM TYPE

among middle- and top-level managers and about 30% mentioned that they forsee more top-level managers participating in executive education.

The volunteered information on trends in program use overwhelmingly supports the data reported in the previous section. For example, over 50% of the 325 companies responding to this question mentioned that they expect to increase reliance on in-house programs over the next 5 years. Companies also indicated that use of other programs is not expected to increase to the degree that they anticipate in-house program use will. However, the fact that other programs are mentioned indicates a continuing market for other programs, including university-sponsored programs. For example, approximately 10% of the companies mentioned that they expect to increase use of short course programs and 5% specifically mentioned increased use of university short course programs. Moreover, about 10% of respondents mentioned university-sponsored executive development programs, and another 10% specifically indicated that they anticipated to increase use of university residential programs. In addition, approximately 6% of the companies mentioned increased use of executive MBA programs as a major trend in program use.

Other, more general, trends mentioned by respondents include increased use of all programs types (7%) and improved matching of programs with company and individual needs (6%). Most of the less frequently mentioned trends concern increased use of specific program types or strategies. However, approximately 3% of the companies mentioned that they expect decreases in training and development.

We also included open-ended questions for respondents to list topics that need additional emphasis or the development of a separate executive education program during the next 5 years. Planning tops companies' wish list of program topics. Nearly one-fourth of the 359 companies responding to this question mentioned a need for long-range or strategic planning and goal-setting information. Second, companies mentioned the need to cover computers, information systems, and high tech components in their executive education programs. Approximately 20% of companies mentioned one or a combination of these topics.

A continuing need in executive education programs is general management education. Interpersonal skills, human resource management, and enhancement of management skills were each mentioned by nearly 15% of companies. Management of change and leadership topics were each listed by approximately 10% of companies. In addition, employee motivation and team-building were each mentioned by about 7% of those who answered this question.

Respondents were also asked to summarize programs that have been the most useful and the least useful for their companies. A total of 260 companies briefly listed elements of their most useful programs. Our results indicate that the programs that incorporate company-specific skills or knowledge are overwhelmingly considered the most useful. Such programs were mentioned by 25% of the respondents. Second in the ranking of most useful programs are those covering management skills, including basic supervisory management (13%). Other types of programs such as those stressing interpersonal relationship skills and team-building (9%), time management (5%) and customer/public relations (5%) were also listed as most useful.

There appears to be much less consensus regarding least useful types of programs. Of the 104 companies responded to this item, only a few categories were mentioned by more than five respondents. For example, 9% of the respondents mentioned university-sponsored courses as least useful. General MBA programs were second, with 8% percent of companies labelling them least useful. In addition, 7% specifically mentioned executive MBA programs as being least useful. Programs for women were also listed as being least useful by 8% of the respondents. Other programs considered least useful were those emphasizing time management, customer relations, and basic management skills (5-7%).

The distinct split in the evaluation of which program components are most and least worthwhile is interesting. For example, time managment, basic management skills and customer relations are mentioned in both the most useful and least useful categories. This suggests that there is substantial variation in the quality of these programs and that there is a market for high-quality programs of these types. It is also worth noting that several university-sponsored programs were mentioned as being least useful, but none was mentioned as being most useful by many respondents.

Finally, companies were also asked to make suggestions for the way universities could better meet their needs for executive education. The primary suggestion is for universities to increase their responsiveness. Over 30% of the 323 companies responding to this item said universities should work harder to identify company needs and then respond to them. Some mentioned universities working cooperatively with companies to identify needs. Second, 16% of the companies mentioned university programs should become less academic and incorporate more practical content. University courses offered at company sites was the third most often mentioned suggestion (14.%). Other suggestions included: more effective promotion of existing university programs, keeping costs reasonable (offering multiple participant discounts), providing short course focused programs, tailoring programs to individual needs, and more flexible scheduling. Each of these items was mentioned by fewer than 10% of the respondents.

Sensitivity of Program Use to Business Conditions

In anticipating future changes in the market for executive development programs it is also important to have some understanding of the sensitivity of the use of these programs to changes in the economy. In the mail survey, we asked respondents to indicate how they would expect the total expenditures on each program type to change if business conditions for the company were to improve significantly, or alternatively, if business conditions were to decline significantly. In specifying the question, we used an increase/decrease of 10% in revenues in a year to represent the improvement/decline in business conditions. Our results are summarized in Figures VII-8 and VII-9.

In Figure VII-8, we indicate how current users of each program type indicated their use of the program would change if business conditions were to improve significantly in the next year. Consistent with earlier results, the program types that would benefit most from an improvement in business conditions are in-house programs -- 46% of the companies that currently used in-house programs indicated that the number of participants would increase by at least 5% -- followed by non-university short course programs (35%), and university short course programs (31%). Longer-term university programs appear less likely to benefit from improvements in business conditions, particularly executive MBA programs.

We also asked the same question of companies that were not currently using each given program type. Our results indicate that in-house programs would be the primary beneficiary of improvements in business conditions. Specifically, among nonusers, nearly 40% indicated they would increase their use of company-specific programs by at least 5% if business conditions were to improve, whereas 20% or fewer of the nonusers indicated similarly for any of the other program types.

In Figure VII-9, we indicate how sensitive companies' use of different executive development programs is to declines in business conditions. As this figure indicates, among current users, the programs with the largest stable markets are company-specific programs and executive MBA programs. Specifically, approximately 50% of current users indicated that their use of these programs would "stay about the same" if business conditions declined, as compared to approximately one-third for the other three program types. The greater stability of the executive MBA program market probably reflects the larger financial and time commitment made to executive MBA programs that cannot be

FIGURE VII-8

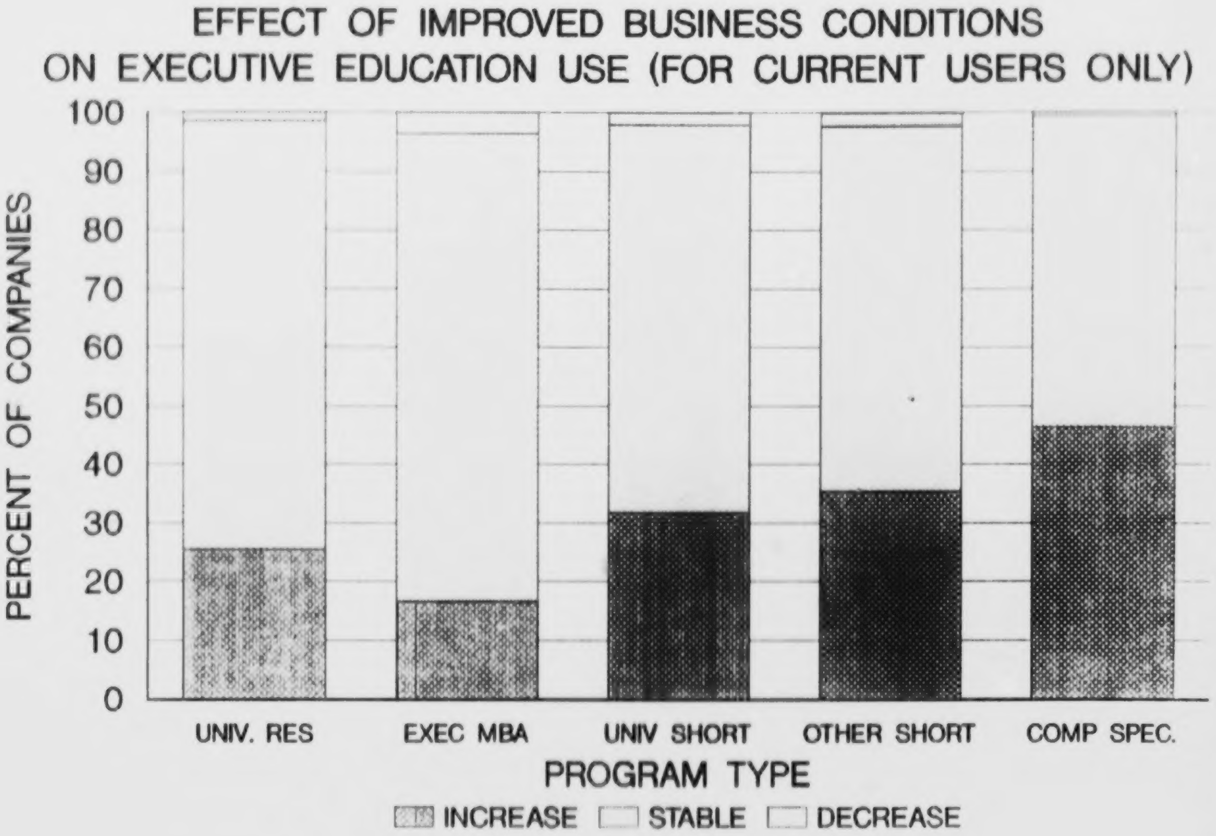
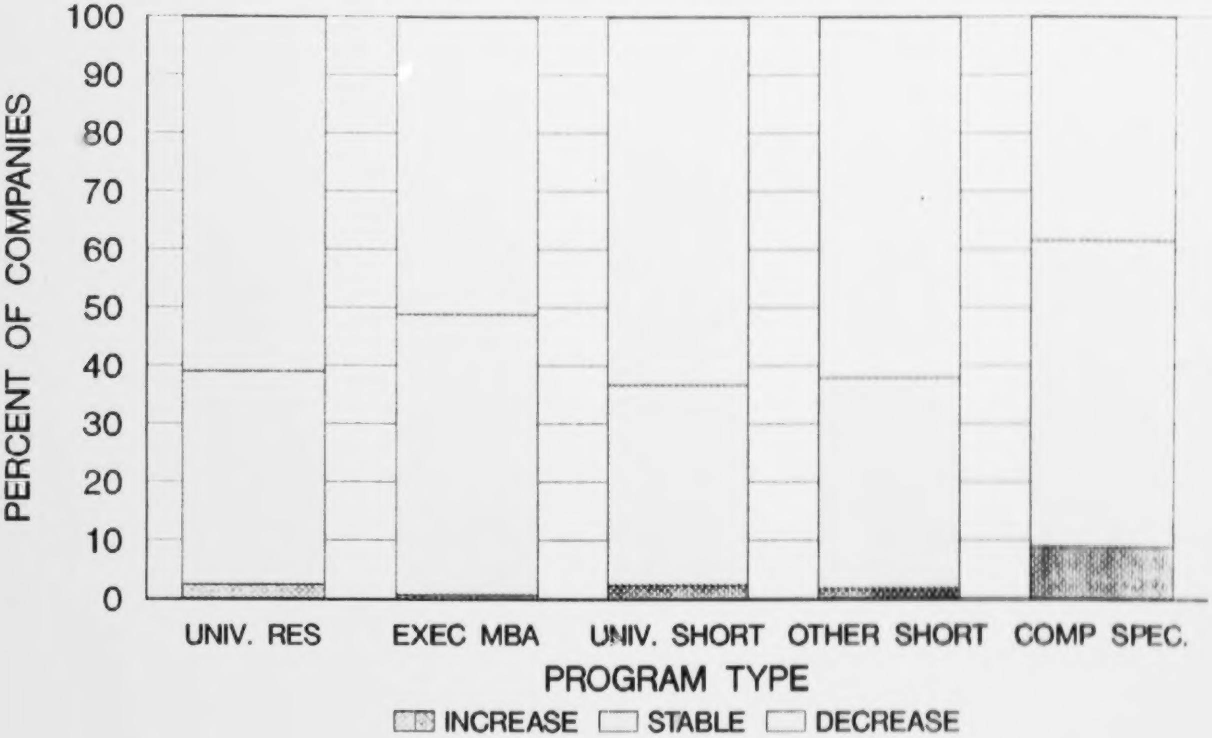

EFFECT OF IMPROVED BUSINESS CONDITIONS
ON EXECUTIVE EDUCATION USE (FOR CURRENT USERS ONLY)
PERCENT OF COMPANIES
0
10
20
30
40
50
60
70
80
90
100
UNIV. RES
EXEC MBA
UNIV SHORT
OTHER SHORT
COMP SPEC.
PROGRAM TYPE
INCREASE
STABLE
DECREASE

FIGURE VII-9

EFFECT OF DECLINE IN BUSINESS CONDITIONS ON EXECUTIVE EDUCATION USE (FOR CURRENT USERS ONLY)



changed quickly. Our results also indicate that if business conditions declined significantly, only slightly over one-third of the companies would decrease their use of in-house programs and nearly 10% of the companies indicated that their use in-house programs would actually increase.

Although a similar percentage of the current users of university residential, university short course programs and non-university short course programs indicated that their use of such programs would decrease if business conditions declined (i.e., approximately 60%), the size of the expected decline appears to be the largest for the relatively expensive university residential programs. In particular, nearly one-fourth of all current users of university residential programs indicated that their use of such programs would decline by more than 10% if business conditions declined significantly, whereas 15% (or fewer) of the users of other programs generally reported such a large decrease would occur for those programs.

VIII. EXAMINATION OF VARIATION IN PROGRAM USE AND TRENDS AMONG LARGE U.S. FIRMS

In the previous sections we have presented general descriptive information concerning the overall level of current use and recent/future trends in the use of executive education programs. Although such information is extremely useful in understanding the market for executive development programs and in determining program offerings and marketing strategies, it is also very important to know the types of companies that are the major users of certain programs. In this section, we meet this objective by profiling the types of companies that are the major users of various executive development programs.

The findings presented in this section focus on differences in the use of executive development programs among companies of different size and industry. We begin with a broad picture of the market by examining how total expenditure on all executive development programs in 1986 varies among companies of different size and industry. We then provide information on the key components of total expenditure. Specifically, we examine how the likelihood of using various executive education programs in 1986 varies by company size and industry and, among users, how total expenditure on the particular executive development program varies on these characteristics. Finally, we discuss how trends in use during the previous 5-year period, and likely expected use during the coming 5 years varies by company size and industry.

Variation in Overall Expenditure on Executive Development Programs

As described in Section III, the results from our mail survey indicate that the total dollars expended on formal executive development programs by large U.S. companies in 1986 was approximately $2 billion. In this section we provide information on the types of companies that spent relatively more, and those that spent relatively less, on executive development programs.

The statistical technique used is ordinary least squares regression analysis. This technique isolates the separate influence of each independent variable on the dependent variable while holding constant the effects of the other variables. The dependent variable for this analysis is total expenditure on all executive development programs during 1986.[14] That is, the dependent variable is the sum of expenditures on the following program types: university residential, executive MBA, university short course, non-university short course and company-specific. For independent variables, we used characteristics of the firm that were available in the Dunn & Bradstreet data base. In particular, the results presented below are from a regression equation that allowed us to estimate the separate effects of five different categories of company size (i.e., fewer than 5,000 employees; 5,000-9,999; 10,000-24,999; 25,000-49,999; and 50,000 and over) and six industrial categories (i.e., agriculture, mining and construction; manufacturing; transportation, communication, and utilities; wholesale and retail trade; financial, insurance and real estate; and service).[15]

In Figure VIII-1, we describe how overall expenditures on executive development programs vary among companies of different size and industry. In particular, the first panel of this figure presents the regression-adjusted mean of total expenditure in 1986 for companies of different size. These adjusted means are based on the average effects for the other variables (i.e., industry dummy variables), so that the only difference between the mean use is the difference due to size. Similarly, the second panel presents regression-adjusted mean expenditures for companies of different industry, evaluated at the average effects of the company size variables. As these results indicate, executive education programs are much more likely to be used by certain types of companies than others. The coefficients of the various regression models reported in this section are provided in Appendix E.

The results in the first panel of this figure show the strong influence that company size exerts on total expenditures on executive education programs. There is a strong monotonic relationship between expenditures and size controlling for the effects of industry. In contrast to an average total expenditure of about $200,000 for executive

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[14] To correct for likely heteroscedasticity and for the oversampling of large firms, the regression equation was weighted by the inverse of the number of employees. Although weighting is not necessary if the true model is known and there is no specification error, this is not likely to hold in our case.

[15] In other analyses, we estimated the effects of size using information from the survey on the number of managers of different levels. We also estimated models that included up to 11 industry categories by separating the manufacturing dummy variable into four categories to determine differences among durable and nondurable manufacturers, and by creating separate dummy variables for the components of the financial sector. Because there were relatively small differences between these models, we chose to present the simpler model. Important differences from the other models are summarized in the text.

FIGURE VIII-1

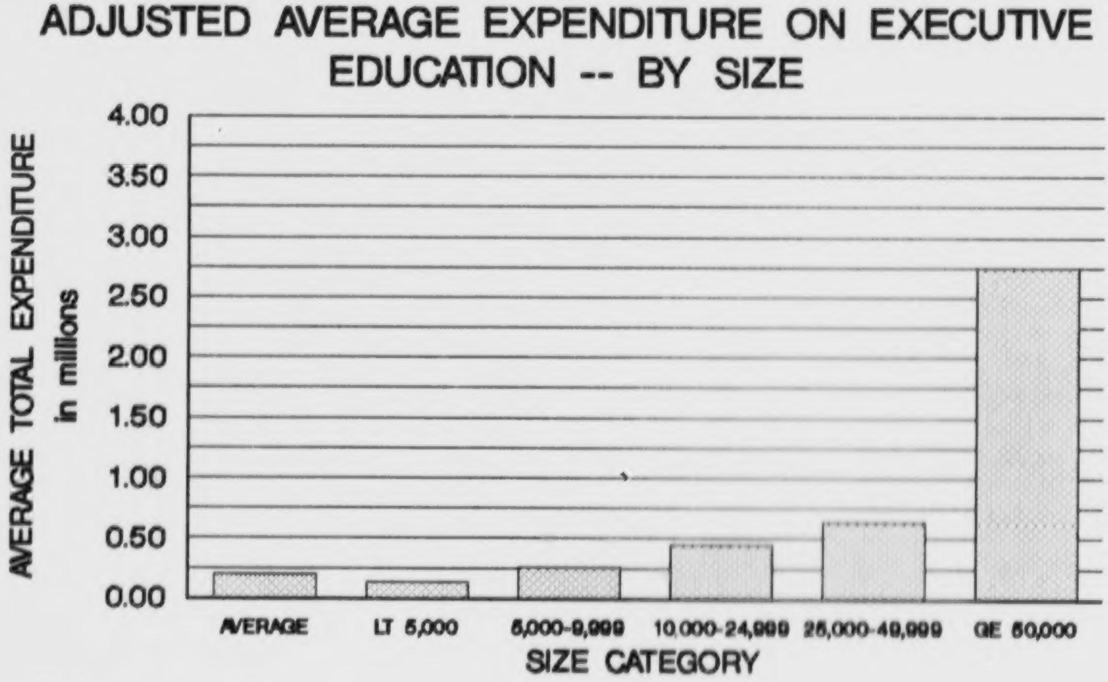
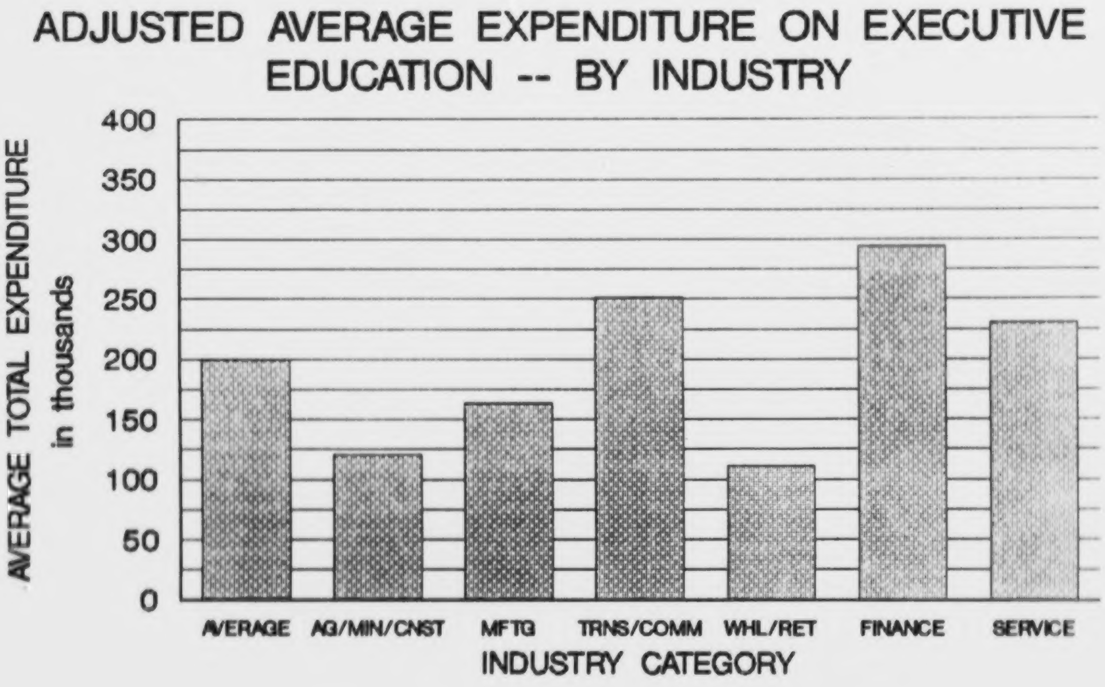


FIGURE VIII-1 (continued)



education by all firms in our sample, expenditures ranged from approximately $130,000 for companies with fewer than 5,000 employees to about $2.75 million for companies with at least 50,000 employees. These results also indicate that companies with 10,000-24,999 employees spent on average about $450,000 on executive development programs and that companies with 25,000-49,999 employees spent approximately $640,000 overall.[16]

In the second panel of Figure VIII-1 we illustrate how total expenditures vary by industry. As this figure indicates, there are considerable differences in company expenditures on executive education programs by industry.[17] In particular, our results indicate that, holding company size constant, the financial, insurance and real estate sector has the highest average expenditures on executive development programs of just under $300,000, followed by companies in the transportation-communications-utilities sector at $250,000. At the other end of the distribution, companies in either wholesale and retail trade, or in the agriculture, mining and construction sectors tend to spend substantially less on executive development. Specifically, in 1986, firms in these industrial sectors spent an average of slightly over $100,000 on executive development programs overall.

It is also interesting to consider the results for the manufacturing and service sectors in the context of the overall economy. As is well known, due to numerous factors (e.g., increases in foreign competition, introduction of new production processes and labor-saving technologies) there has been a tremendous shift in employment away from the manufacturing sector and toward employment in the service sector. Our results indicate that, holding company size constant, firms in the manufacturing sector spent below average (approximately $160,000) on executive education programs in 1986, and that firms in the service sector spent considerably more, approximately $230,000 on average.[18] Although the relatively high expenditures in the service sector in

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[16] The coefficients of the size dummy variables in this model are all statistically significant at the .01 level.

[17] With the manufacturing sector serving as the reference category, only the dummy variable for the financial sector is significant at the .01 level. The categories for transportation-communication-utilities and service industries are significant at the .10 level based on a one-tailed test.

[18] In other analyses, we determined that there are some differences in average expenditures on executive development programs within the manufacturing sector, such that companies producing nondurable goods tend to have higher expenditures than other manufacturing companies.

combination with the very high growth in employment might suggest an expanding market for executive education programs in the service sector, it is important to note that a substantial portion of the higher expenditure is due to certain segments of the service sector that are not growing as rapidly. For example, based on other analyses, it appears that companies in the health service industry -- a very rapidly growing sector -- are somewhat below average, firms in business services are somewhat above average, and that firms in an "other services" category are substantially above average. The types of companies in the "other services" category that in large part account for the relatively high expenditures on executive education for the service sector overall are hotels, personal services, and accounting/engineering consulting firms.

Variation in Use and Expenditures on Specific Program Types

With the analysis above serving as a general overview of the differences among types of firms in the overall dollars expended on executive education programs in 1986, we now probe beneath these averages to get a better understanding of how companies differ in their use of specific program types. Specifically, below we first examine how the likelihood of using a certain program varies among companies of different characteristics. Then, among users, we examine how total expenditures on each executive development program varies among different company types. Providing information on key components of overall expenditures by program type, this analysis will help identify any important differences in the market for various programs among different types of firms.

Factors that Affect Current Program Use

In Figures VIII-2 through VIII-7, we describe the effects of company characteristics -- size and industry -- on the probability of using each of the five major program types in 1986. These results are based on separate multiple regression equations in which the dependent variable is 1 if the company sent executives/managers to the particular program type in 1986 and 0 otherwise. Similar to the results presented above, these figures report the regression-adjusted mean of the probability of using a specific program type in 1986 for companies of different size and industry.

As the results in Figures VIII-2 through VIII-4 indicate, company size exerts a strong influence on the likelihood of program use. For example, we estimate that 27% of the companies with fewer than 5,000 employees used university residential programs in 1986, as compared with 77% of the companies that have at least 50,000 employees. The strong effects of company size on the likelihood of using executive development

FIGURE VIII-2

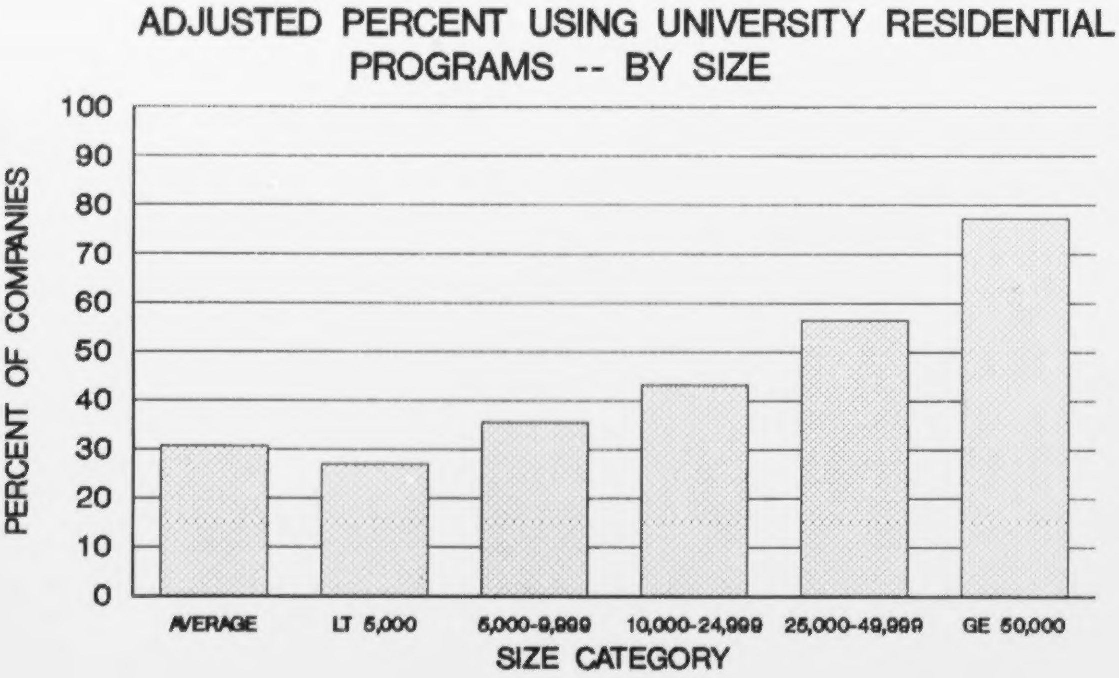


FIGURE VIII-2 (continued)

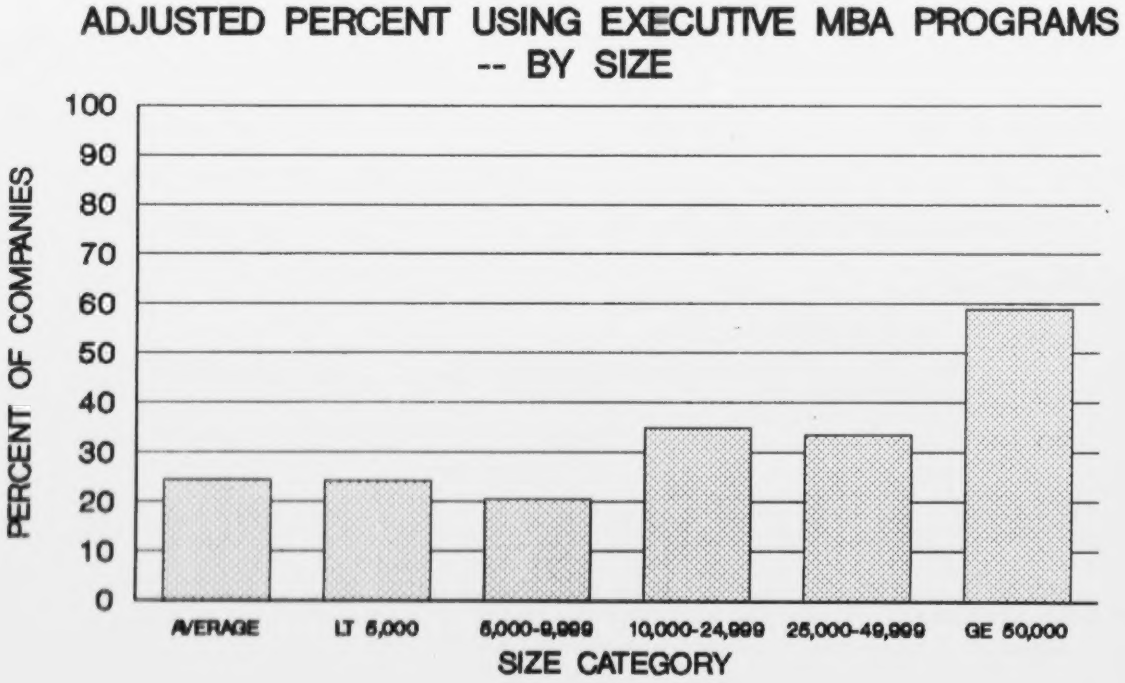


FIGURE VIII-3

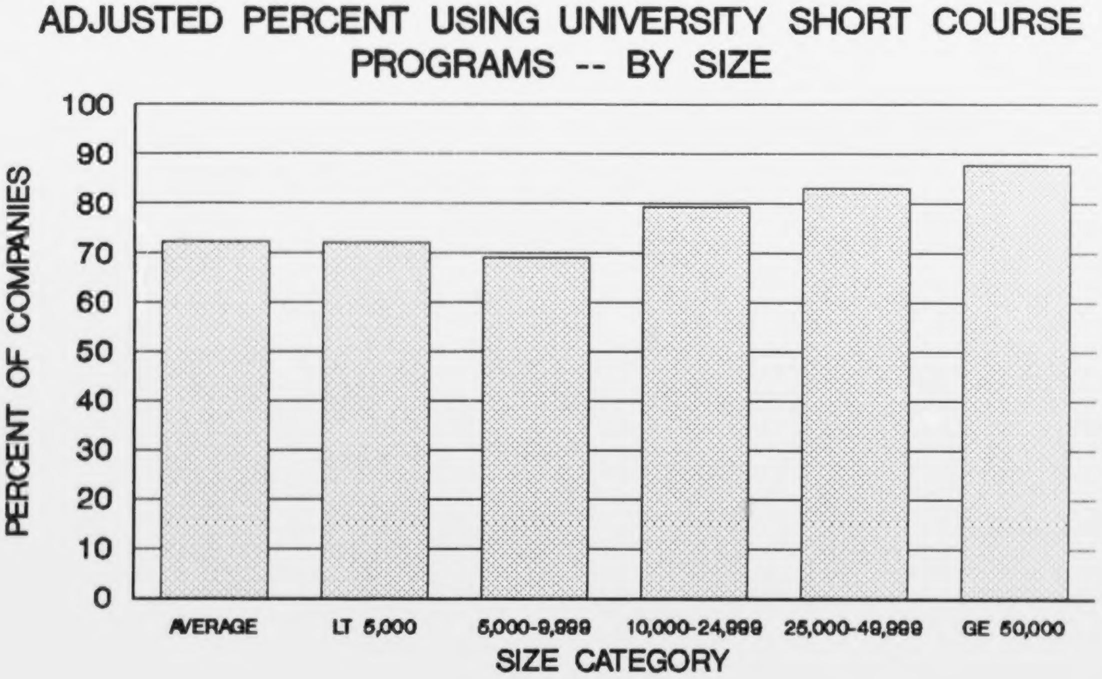


FIGURE VIII-3 (continued)

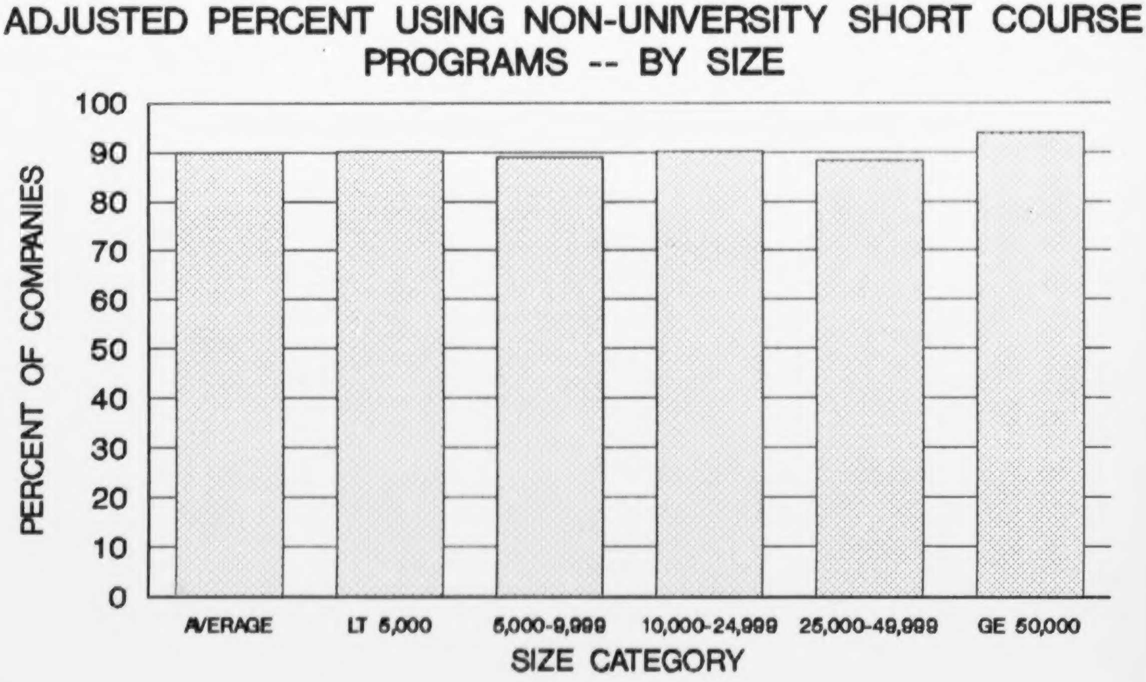


FIGURE VIII-4

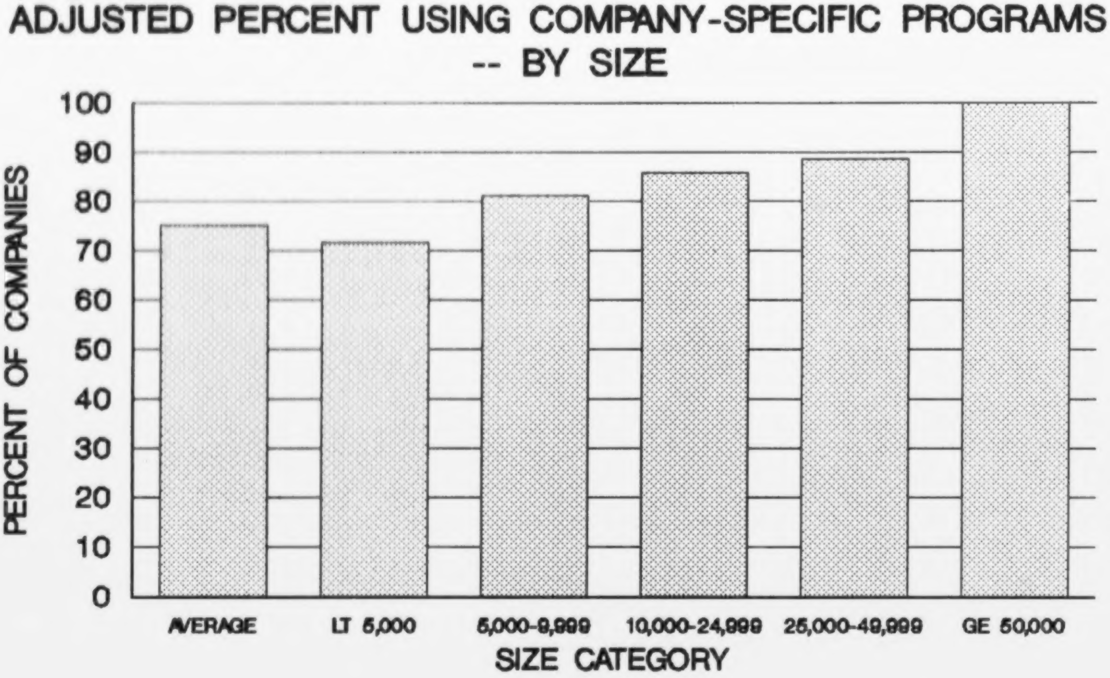


FIGURE VIII-5

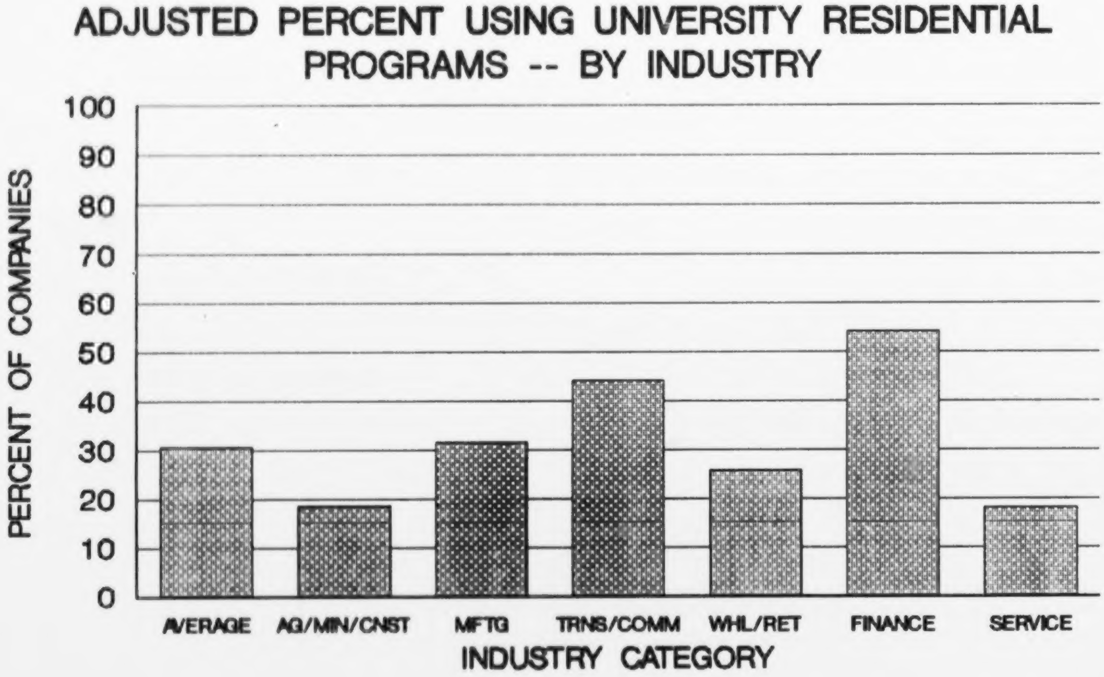


FIGURE VIII-5 (continued)

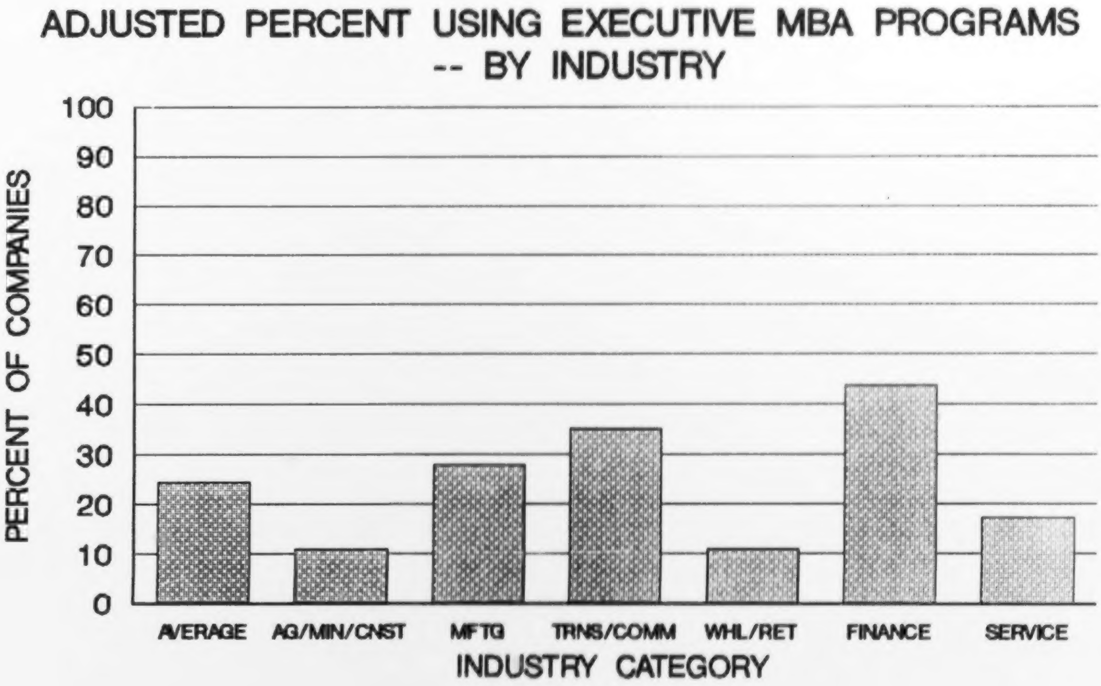


FIGURE VIII-6

ADJUSTED PERCENT USING UNIVERSITY SHORT COURSE PROGRAMS -- BY INDUSTRY

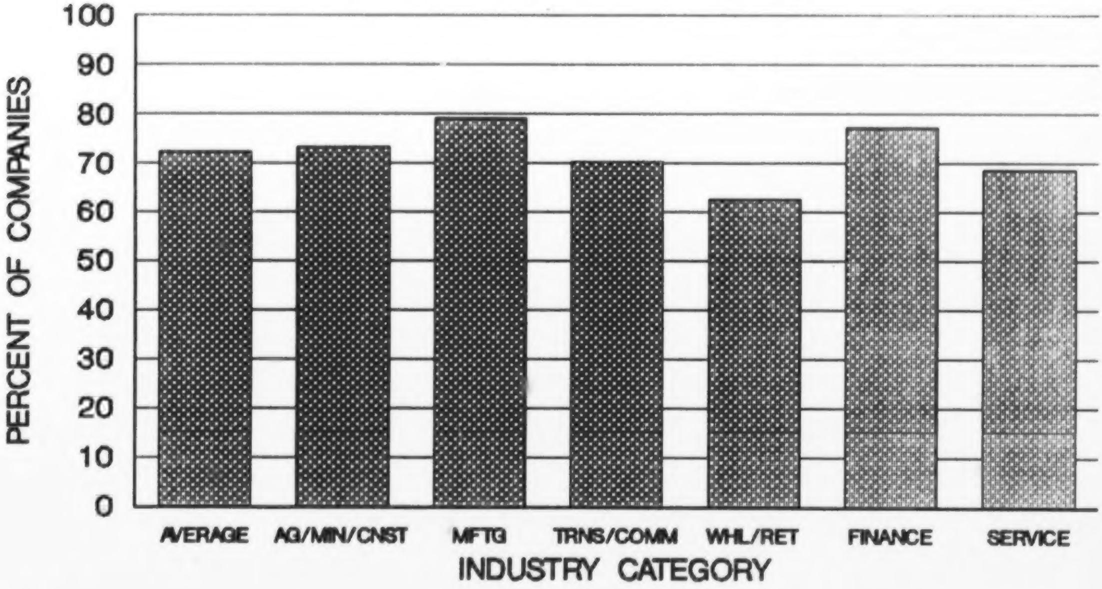


FIGURE VIII-6 (continued)

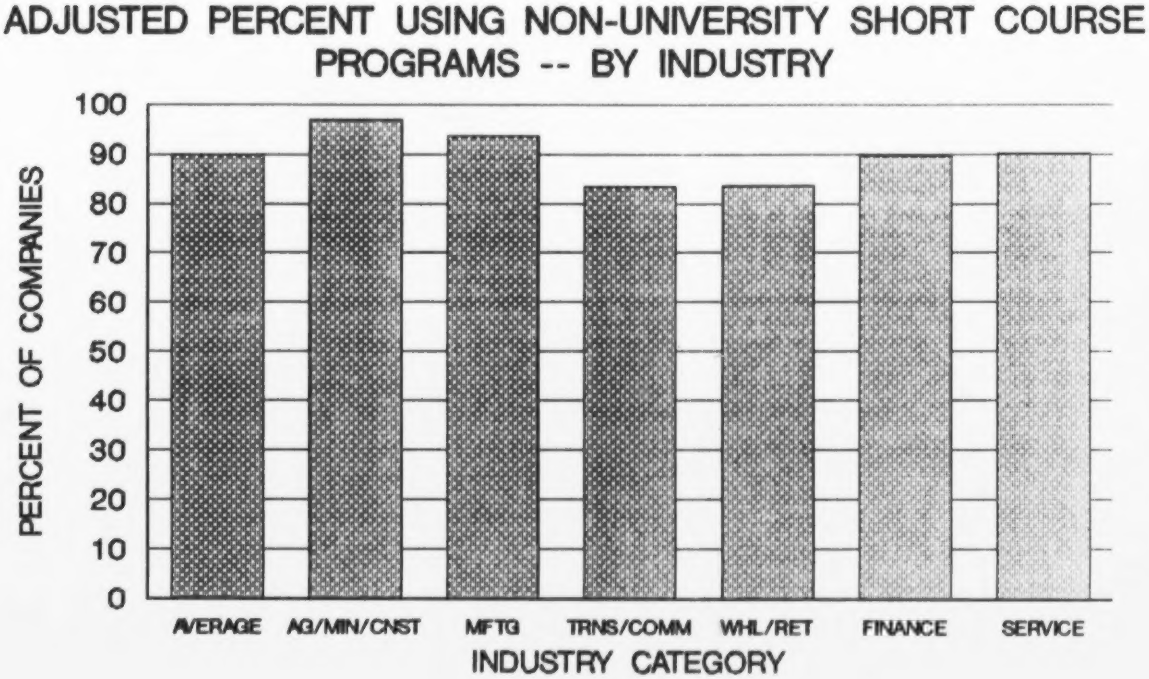
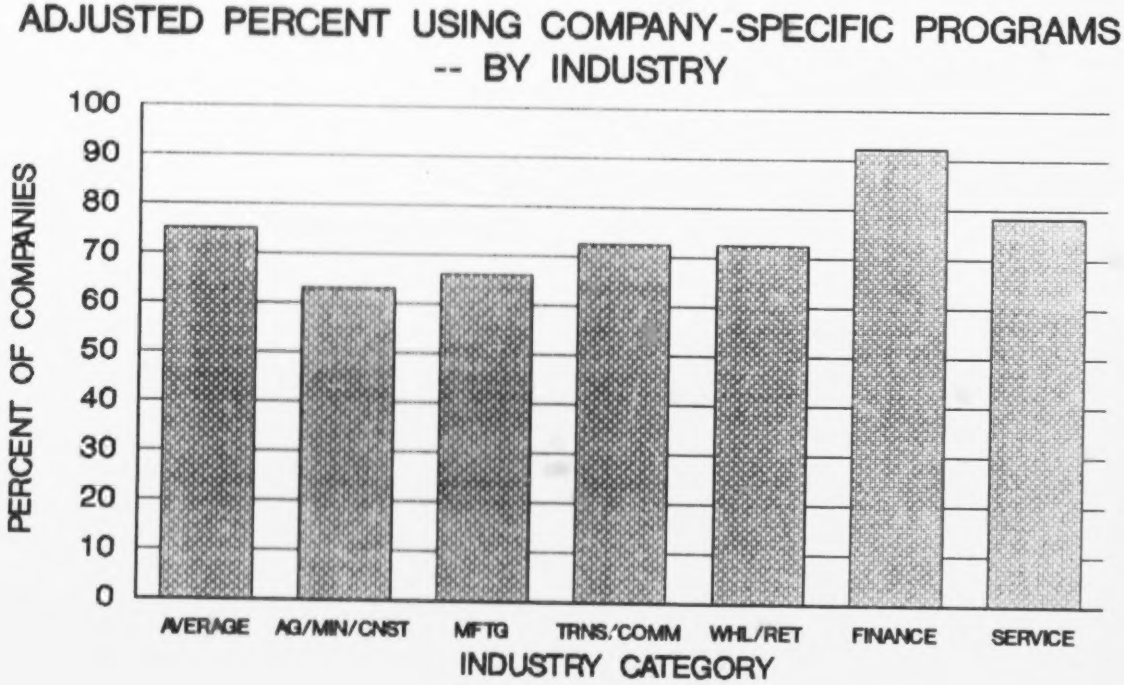


FIGURE VIII-7



programs is also evident for executive MBA programs, university short course programs and company-specific programs, where there is generally a monotonic relationship such that larger companies have a greater probability of using each program type than smaller companies. For example, for each of these program types, companies with 10,000-24,999 employees are estimated to be more likely to use the program than companies with 5,000-9,999 employees, and considerably less likely than companies with at least 50,000 employees.[19] The only program type for which the likelihood of use does not vary systematically with company size is non-university short course programs, where the probability of use is approximately 90% for all sized companies.

The results in Figures VIII-5 through VIII-7 also indicate considerable differences in the use of various program types by industry. Consistent with the overall results described above, companies in the financial sector and the transportation-communication-utilities sector are significantly more likely to use various programs than firms in other industrial sectors. This is particularly true for the longer-term university programs. For example, 54% of the financial institutions and 44% of the firms in the transportation-communications-utilities sector are estimated to have used university residential programs in 1986, as compared to from 20-30% for companies in other industries. Also, these industry groups are much more likely to use executive MBA programs: 44% for financial institutions and 35% for the transportation-communications-utilities sector, as compared to an overall average of 25% and with several other industrial sectors in the 10-20% range. Although not reported in this figure, based on other analyses the greater likelihood of financial institutions as a group in using these longer-term university programs is primarily due to the much greater probability of use by banks.

For short course and company-specific programs, differences in the patterns of use are less clear. Although companies in the financial sector are substantially more likely to use company-specific programs -- over 90% of the companies are estimated to offer in-house programs for executives/managers as compared to 60-70% for most other industries -- there are generally smaller differences among industries in the use of short course programs.[20] Our results do, however, indicate that although the large majority of all companies use these types of programs, companies in wholesale and retail trade and those in the transportation-communications-utilities sector are significantly less likely to use both types of short course programs. Also, based on other analyses, it appears that the relatively high likelihood of using short course programs by firms in the financial sector is due to the relatively greater likelihood of insurance companies to use these programs than banks or other financial institutions.

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[19] Because the ordinary least squares regression technique does not restrict predicted probabilities to be no greater than 100%, we obtained a regression-adjusted mean value for the likelihood of using company-specific programs for firms with at least 50,000 employees that was slightly greater than 100%. As a result, the value reported in Figure VIII-4 for this size category was set to 100%.

Variation in Expenditures by Program Type Among Users

In addition to examining how the likelihood of using a particular program type varies among companies with different characteristics, in order to have a complete picture of the market it is important to understand how expenditures on different programs vary among companies that use each program type. To provide information on this issue, we estimated separate ordinary least squares regression equations for each program type over the subsample of companies that used the program in 1986.[21] In conducting this analysis, we used two dependent variables for each program type: (1) number of participants sent and (2) total expenditures on the particular program type. Because the results are very similar and identify the same patterns among firms of different size and industry, below we present only the results for total program expenditures.

In Figures VIII-8 through VIII-13, we report how the overall expenditures on specific executive development programs vary among the companies that use each

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[20] Our results indicate that the very high probability of using in-house programs by the financial sector is due to high and approximately equal use by banks and insurance companies.

[21] Because the results presented below are based on the subsample of companies that use a particular program type, they must be interpreted as the differences in the extent of use (i.e., total expenditures) by size and industry for those that use the program, and not the differences for all (using and nonusing) companies. In order to determine the unconditional effects of size and industry on program-specific expenditures, it is then necessary to combine the results from the probability of use analysis and the analysis of total expenditures, conditional on use. Although it would have been possible to estimate a single equation for total expenditures by program type, because many companies do not use certain programs this would cause a large number of observations at zero expenditures, which in turn leads to inconsistent estimates using ordinary least squares techniques. An alternative procedure--a Tobit model--can be used to overcome this problem if the distribution of the dependent variable is approximately truncated normal. However, this assumption is not met in the current analysis.

FIGURE VIII-8

ADJUSTED AVERAGE EXPENDITURE ON UNIVERSITY RESIDENTIAL PROGRAMS AMONG USERS -- BY SIZE

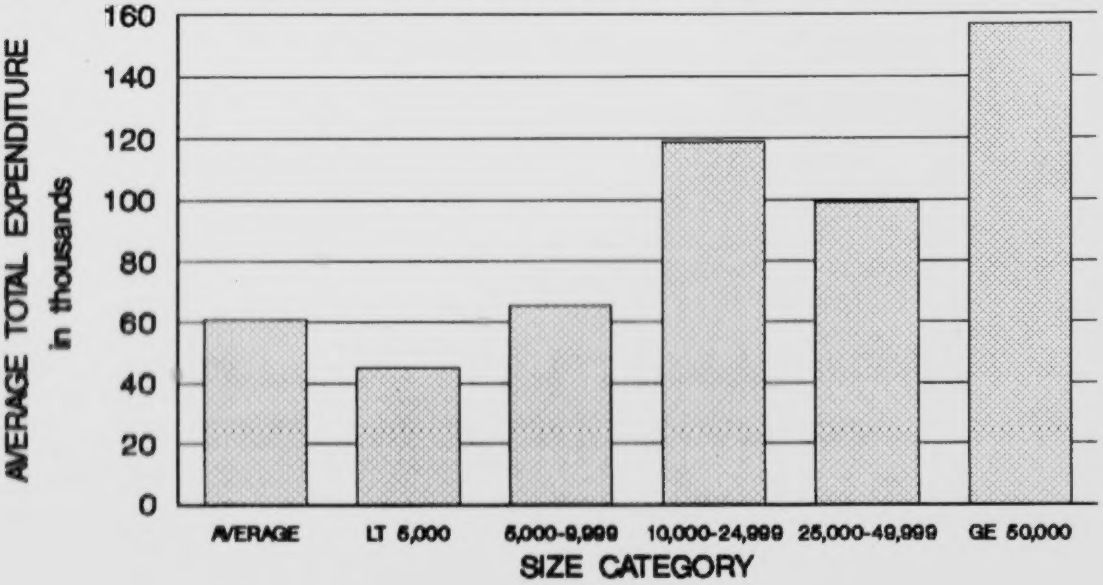


FIGURE VIII-8 (continued)

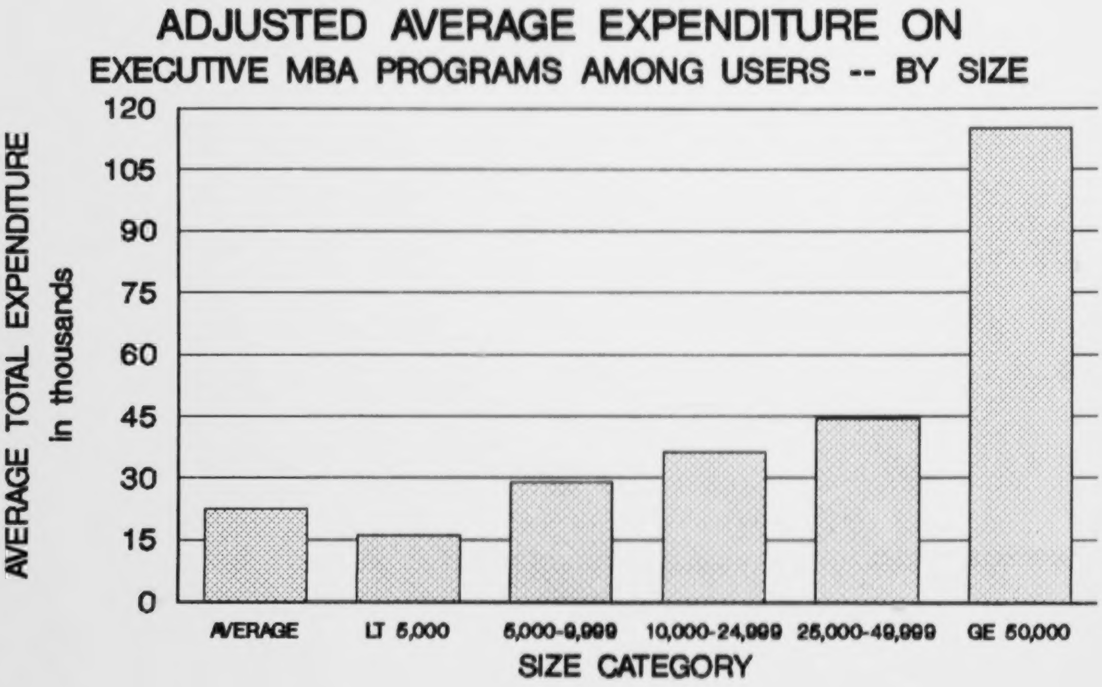


FIGURE VIII-9

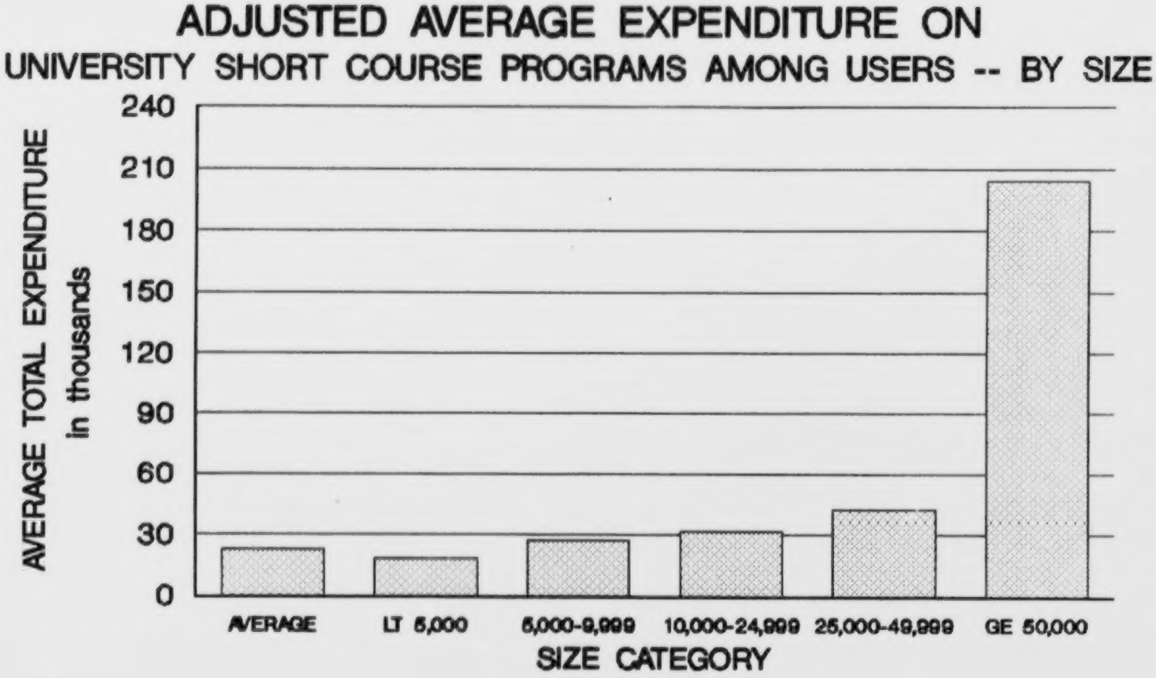


FIGURE VIII-9 (continued)

ADJUSTED AVERAGE EXPENDITURE ON
NON-UNIVERSITY SHORT COURSE PROGRAMS AMONG USERS -- BY SIZE

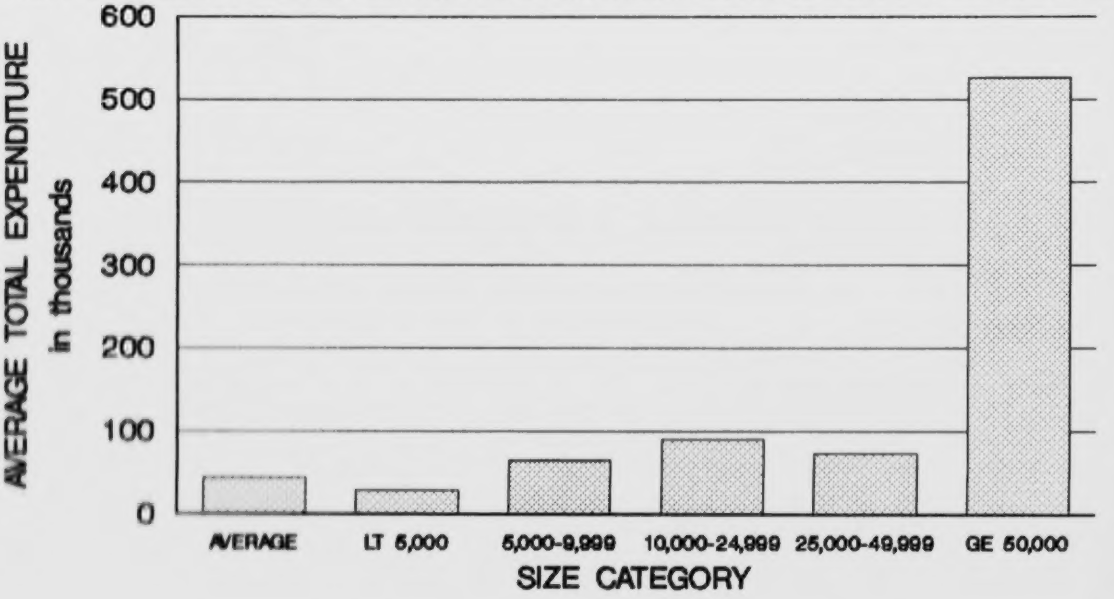
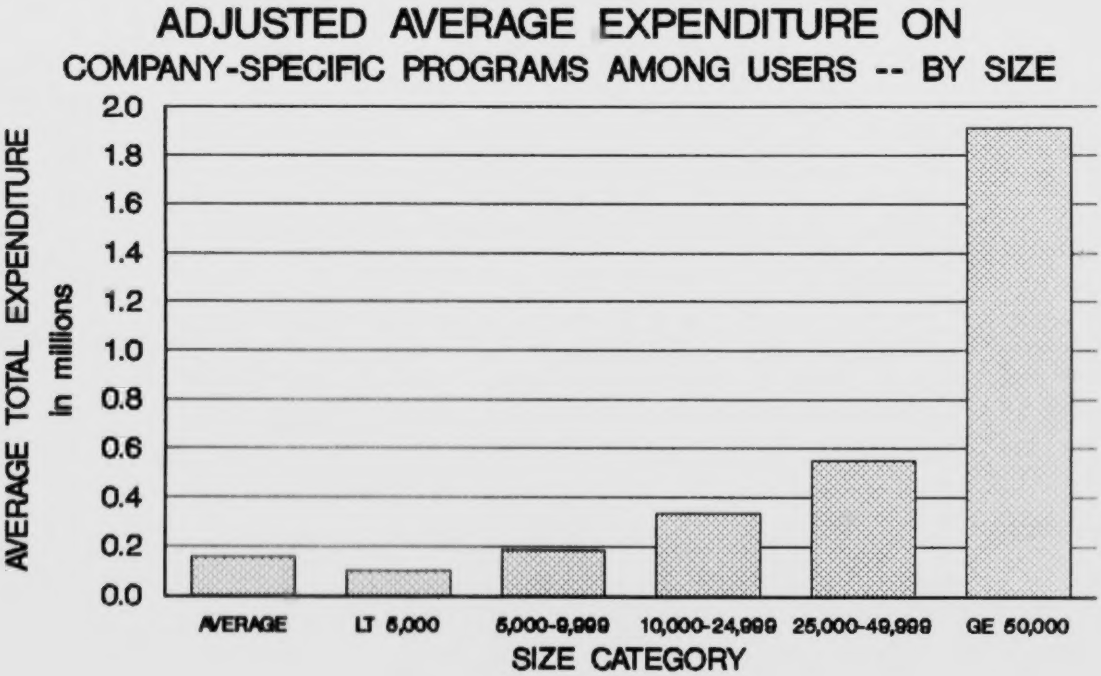


FIGURE VIII-10



program by size and industry. The results in the first three of these figures concerning company size mirror the results discussed above. That is, not only are larger companies much more likely to use a particular program type, but among users, they are much more likely to spend a greater amount on each program type. Although there is typically a monotonic pattern of increasing expenditure with company size for each program type, the greater expenditures are particularly evident for the largest firm size group of 50,000 employees and over and also especially true for short courses. For example, these very large companies spent on average slightly over $200,000 on university-short course programs and over $500,000 on non-university short courses in 1986, which is roughly six times as much as companies that had 25,000-49,999 employees. Among somewhat smaller companies (e.g., 5,000-9,999 employees, 10,000-24,999 employees and 25,000-49,999 employees) that use short course programs, the differences in expenditures are relatively minor. When combined with the results for whether companies use specific programs by size, these findings indicate substantial differences in the total expenditures (i.e., combining users and nonusers) of companies on executive development programs by size.

In Figures VIII-11 through VIII-13, we describe how the expenditures of firms that use each program type vary by industry. Although the general pattern of firms in the financial sector and firms in the transportation-communications-utilities sector spending more on various executive development programs is broadly supported there are some differences worth noting. For university residential programs, companies in the financial sector (primarily banks) are the biggest spenders among users, with users in the wholesale and retail trade sector at the low end. In combination with their much greater likelihood of using university residential programs, firms in the financial sector (users and nonusers combined) spend much more in total -- approximately $45,000 on average -- than any other industrial sector. Although firms in the transportation-communications-utilities industry that use these programs spend somewhat less than most other firms, because they are more likely to be users they spend more than companies in other industries (approximately $20,000 on average).

As indicated in the second panel of Figure VIII-11, among users of executive MBA programs, companies in the transportation-communications-utilities sector spend the most on average (slightly over $30,000), followed by companies in the manufacturing sector ($26,000), and the financial sector ($20,000). Although not reported in this figure, when combined with the probability of use analyses described above, our results indicate that the transportation-communications-utilities sector has the highest average expenditure on executive MBA programs, followed by companies in the financial and

FIGURE VIII-11

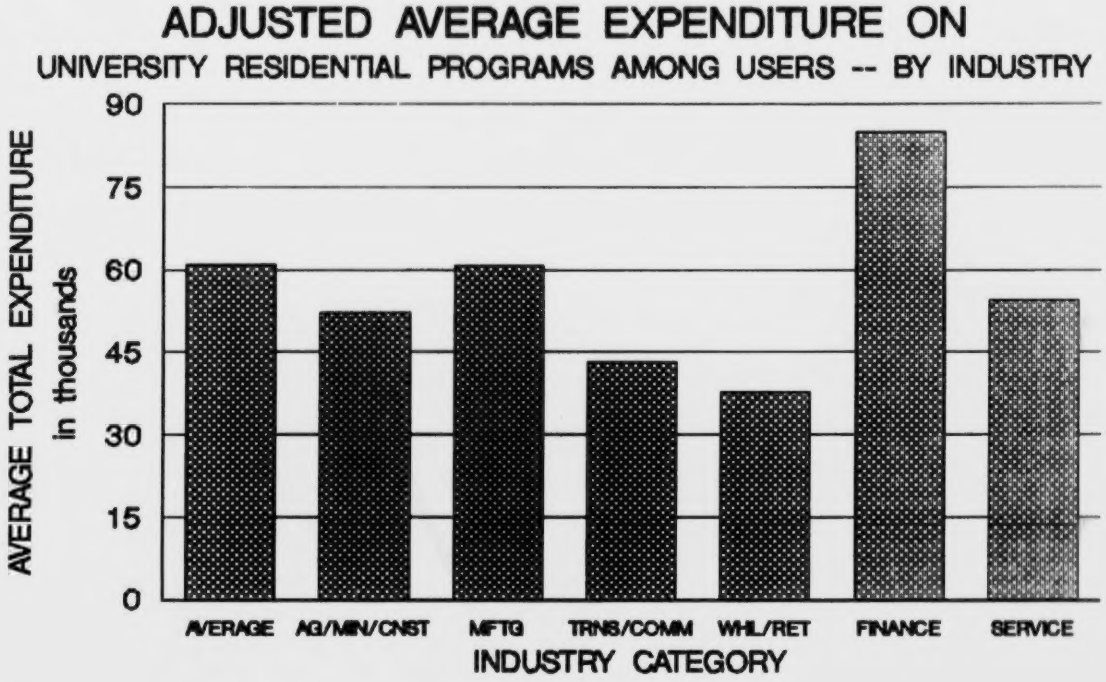


FIGURE VIII-11 (continued)

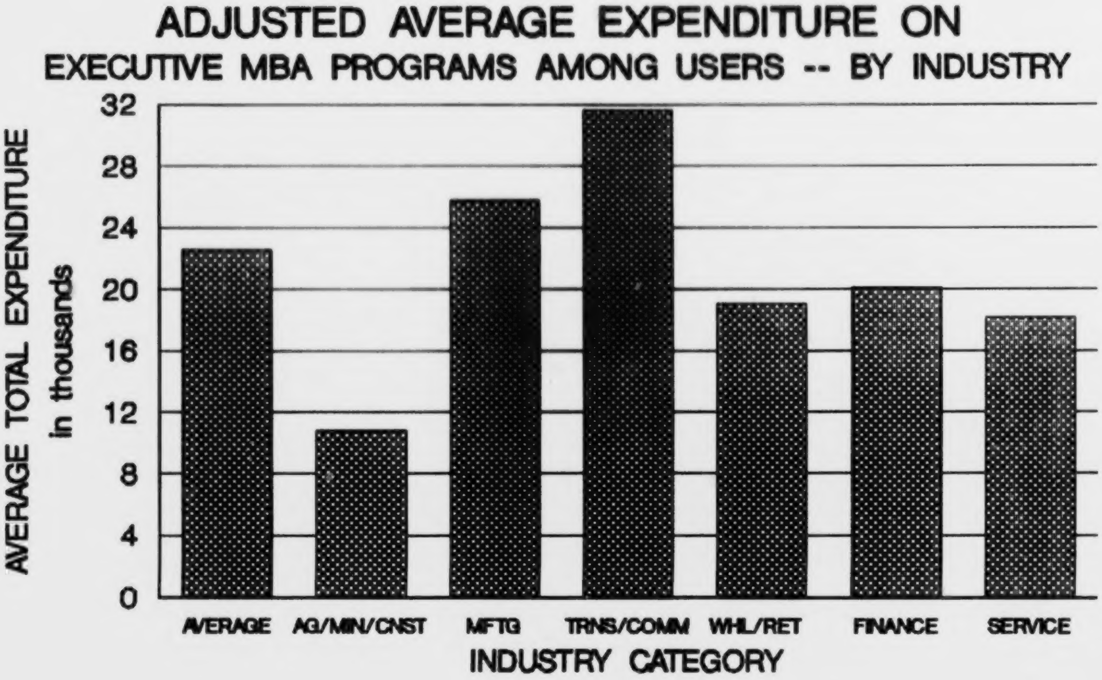


FIGURE VIII-12

ADJUSTED AVERAGE EXPENDITURE ON
UNIVERSITY SHORT COURSE PROGRAMS AMONG USERS -- BY INDUSTRY

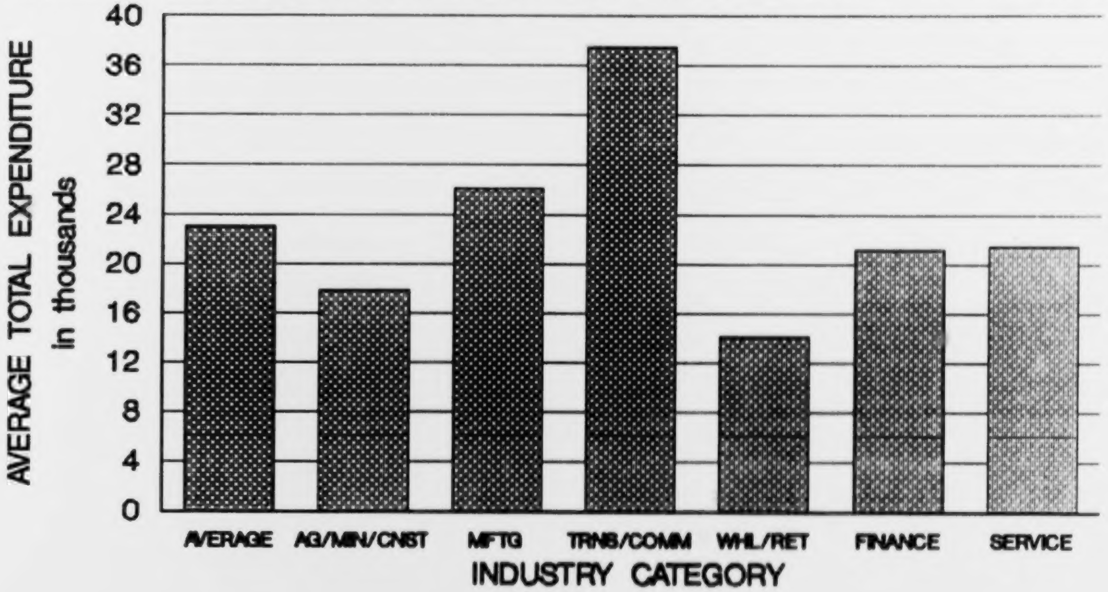


FIGURE VIII-12 (continued)

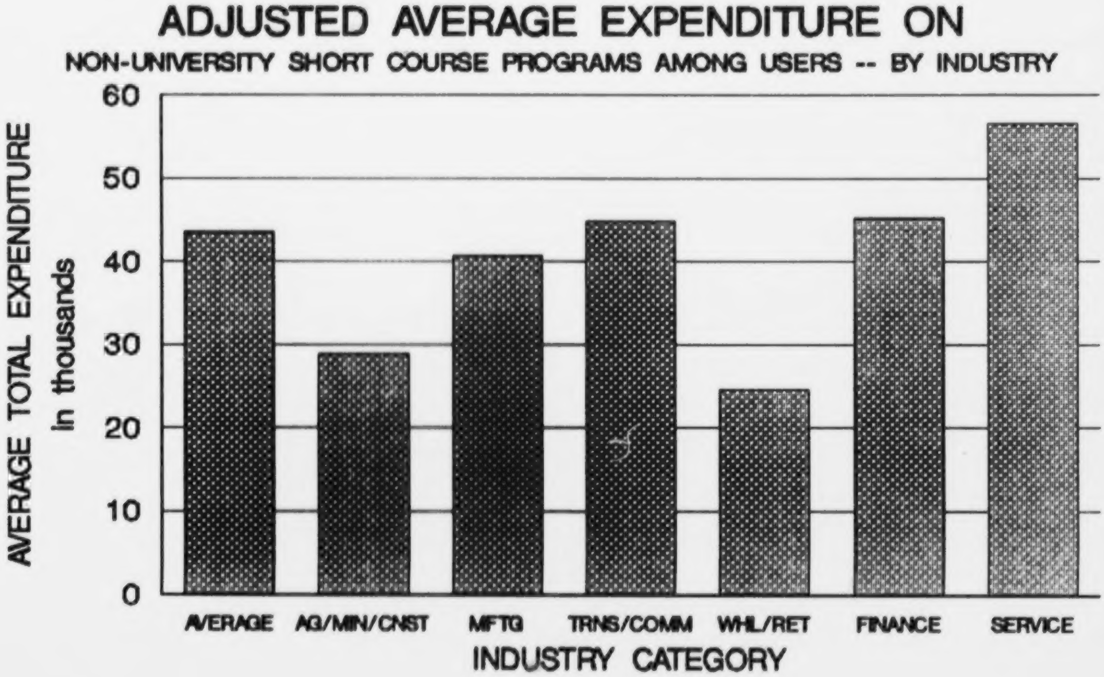
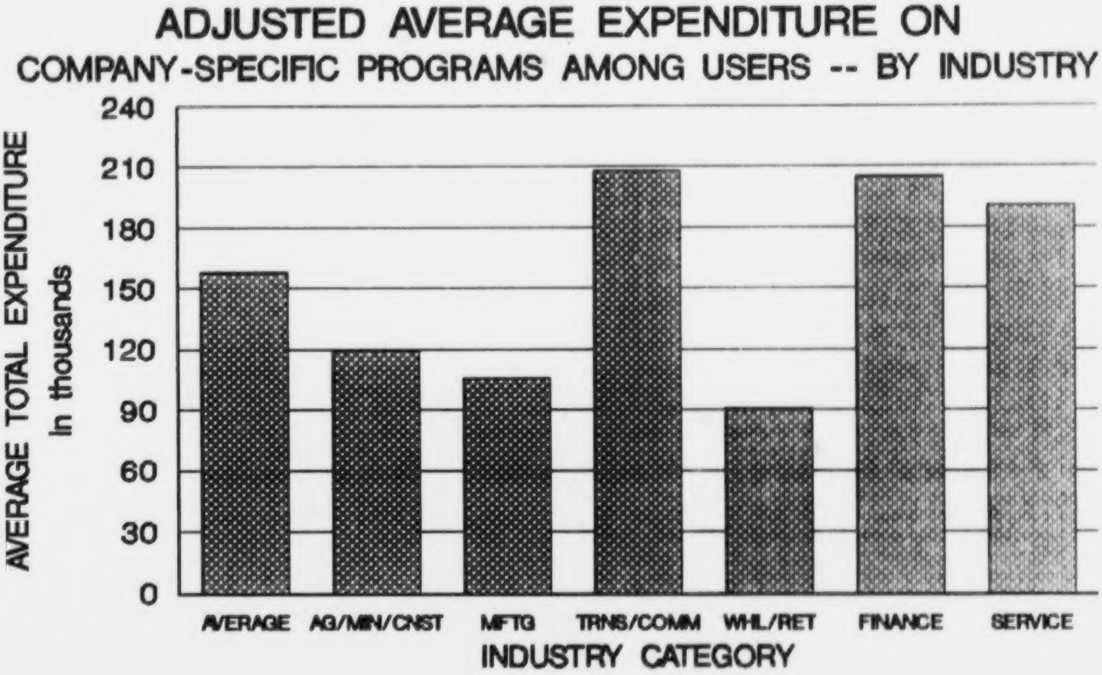


FIGURE VIII-13



manufacturing sectors. Because of low utilization rates, the average expenditures on executive MBA programs for all companies in each of the other sectors is very small.

In Figure VIII-12, we report the results for users of university and non-university short course programs. As this figure indicates, companies in the transportation-communications-utilities sector are the largest users of university short courses, and companies in the service sector are the largest users of non-university short courses. For both program types, firms in the agricultural-mining-construction and wholesale and retail trade sectors that use these programs spend much less than other firms, and there are relatively small differences among the other companies. Because, as we discussed above, there are generally modest differences in the likelihood of using these short courses by industry, the unconditional pattern of expenditures (i.e., combining users and nonusers) among industrial sectors is very similar to the pattern among users. Specifically, companies in the transportation-communications-utilities sector are largest users of university short courses by a considerable margin, and firms in the service sector are the largest purchasers of non-university short course programs followed by firms in the financial and transportation-communications-utilities sector.

Finally, in Figure VIII-13, we present the results for average expenditures on company-specific programs by industry among users. As this figure indicates, the largest users of in-house programs are companies in the transportation-communications-utilities, financial and service sectors, with companies in the other sectors lagging far behind. Specifically, each of the three large users of in-house programs spends approximately $200,000 on these programs, whereas companies in the other industrial sectors that use these programs spend about one-half that much. When combined with the findings on likelihood of use discussed above, our results indicate that companies in the financial sector spend the most on in-house programs (approximately $190,000), with companies in the service and transportation-communications-utilities sectors each spending about $150,000 due to the lower incidence of using such programs in these sectors.

The results presented above indicate strong patterns in the use of executive education programs among companies of different size and industry. Not surprisingly, larger companies are much more likely to use each of the different program types than smaller companies, and among users, the dollars expended also increase considerably with company size. In terms of industry, the financial sector and the transportation-communications-utilities sector are consistently among the highest users of each program type and tend to spend the most on formal executive education programs. The relatively high overall expenditures of companies in the service sector are principally due to their very high use of company-specific and non-university short courses. Manufacturing companies tend to be a medium user of most program types, and firms in the wholesale and retail trade sector, as well as firms in the agriculture-mining-construction industry, tend to be much smaller users of executive development programs.

Variation in Recent/Future Trends in Program Use By Company Types

In addition to examining the factors that affect the overall use of various executive education programs, we also examined how recent past and expected future trends in use vary by company characteristics. That is, we examined the characteristics of companies that are associated with the probability that the recent/expected use of these programs is increasing, decreasing, or remaining about the same. Knowing whether the change in use is likely to come from companies that are already using the particular program type, or whether it will occur through new users at the expense of reduced use of other types of programs, and knowing how it is likely to differ by company size and industry, is important for understanding how the market for executive education is likely to change.

Examination of Recent Changes in Use

We begin by describing our efforts to examine how changes in the use of specific program types during the 5-year period prior to 1986 vary by company characteristics. Using data from the mail and telephone survey, we developed the following four alternatives for each program type: (1) did not use either in 1981 or in 1986; (2) increased use from 1981 to 1986; (3) decreased use from 1981 to 1986; and (4) used in both years at about the same level (i.e., stable users). These alternatives are mutually exclusive and summarize all of the possible situations.

For this analysis, we used a multinomial logit model that simultaneously estimates the effects of company size and industry on the probability of each of these four alternatives. In part because of the relatively small cell sizes for some of the alternatives for certain program types, the models had various degrees of success. Although each of the models easily met an overall statistical significance test (except the model for non-university short courses), for the most part the models do not explain the choice among these alternatives extremely well. In addition, for the most part, the findings basically confirm the previously described descriptive results and, therefore, are not very surprising. As a result, we decided not to present the numerous figures required for a detailed presentation of our findings. Instead, we briefly summarize the key findings in qualitative terms below and present the logit coefficients in Appendix F.

- University Residential Programs - The high use of university residential programs in 1986 by companies in the financial sector is, in large part, due to these firms being much more likely than others to have increased their use of university residential programs from 1981 to 1986. On the other hand, the high use of companies in the transportation-communications-utilities sector in 1986 reflects their greater likelihood of remaining a stable user through this period. There were no major trends by company size.

- Executive MBA Programs - Companies in the financial sector are much more likely than other companies to have increased their use of executive MBA programs from 1981 to 1986. Our results also indicate that very large companies (i.e., those with at least 50,000 employees are significantly more likely to have increased their use of executive MBA programs and that smaller companies are slightly more likely to have reduced their use.

- University Short Courses - Companies in the financial sector are less likely to have increased their use of university short courses and relatively more likely to have remained a stable user of these programs than other companies. It also appears that relatively small companies (i.e., those with fewer than 5,000 employees) were more likely to increase their use of university short course programs during this period, while larger companies were more likely to remain as stable users.

- Company-Specific Programs - Companies in the financial sector are more likely to have increased their use of company-specific programs during the previous 5 years. In addition, companies in wholesale and retail trade, those in transportation-communication-utilities and companies in the service sector were significantly more likely to have increased their use of in-house programs. Companies in the service sector were also much more likely than other companies to remain a stable user of company-specific programs. The greater likelihood of growth in company specific programs came from very large firms.

Examination of Expected Future Changes in Program Use

As described in Section VII, companies in our sample reported that they expect considerable growth during the coming 5 years in company-specific and short course programs and somewhat less growth in the longer-term university programs. To better understand where the likely growth will come from, we examined how expected changes in the use of specific program types over the coming 5 years vary by company characteristics. We again used a multinomial logit model for the following five alternatives: (1) did not use in 1986 and do not expect to use during next 5 years; (2) use in 1986 and expect to increase use during next 5 years; (3) use in 1986 and expect stable use during next 5 years; (4) use in 1986 and expect decrease in use during next 5 years; and (5) did not use in 1986 but expect to use during next 5 years. The results are briefly summarized below in qualitative terms:

- University Residential Programs - The growth in the market for university residential programs will primarily come from companies in the financial sector and larger companies (at least 25,000 employees) that currently use these programs. It also appears that companies in the service sector and in the wholesale and retail trade sector are more likely to decrease their use of university residential programs during the next 5 years.

- Executive MBA Programs - The projected use pattern for executive MBA programs is quite similar. Specifically, the growth in the market is most likely to come from companies in the financial sector, with no differences in growth by company size. Larger-sized companies are more likely to remain stable users of the program.

- University Short Courses - The results for university short course programs are less clear. It appears, however, that the financial sector is slightly more likely to increase use of these programs, and that companies in the agriculture-mining-construction and service sectors are relatively more likely to reduce future use of university short course programs.

- Non-University Short Courses - For non-university short courses, our results indicate that some of the projected growth is due to companies in the transportation-communications-utilities and wholesale and retail trade sectors that do not currently use such programs expecting to enter the market. Among current users, our results also indicate that companies in the financial, service, and agriculture-mining-construction sectors are more likely than other companies to reduce use of their short programs.

- Company-Specific Programs - Finally, for company-specific programs, firms in the financial sector are much more likely than other firms to report expected increased use of in-house programs. In addition, firms in the service sectors are relatively more likely than other firms to use more in-house programs and firms in the agriculture-mining-construction sector are more likely to use less of the in-house programs in the future.

Summary

These results on recent and expected trends by company type in the market for executive education are very consistent with the pattern of current use discussed earlier. Specifically, the growth in use during the 5-year period immediately preceding 1986, and the likely growth for the coming 5 years for each program type is primarily coming from the current major users of the program. For example, for the longer-term university programs, recent and expected future growth appears concentrated in companies in the financial sector. The largest recent and expected growth in company-specific programs is also from two of its largest current users: financial and service sectors. Finally, our results indicate that some of the growth of non-university short courses may come from companies in the transportation-communications-utilities and wholesale and retail trade sectors that do not currently use these programs.

IX. SUPPLY STUDY: DESIGN AND FINDINGS

In order to better understand the market for university-based executive education programs and how it is changing, it is also important to examine the types of programs that are currently offered and to identify major trends in program offerings. When combined with the results of our analysis of the demand for various types of executive education programs, an overview of the "supply" of university-based executive education provides a basis for assessing the fit between the perceived needs of firms and the characteristics of university-based programs currently offered. Thus, in addition to the demand study described in previous sections, our research project also included a much smaller component concerned with the supply of university-based executive education programs. In this section we describe the design of the supply study and present our findings.

Design of Supply Study

In developing the design for the supply study we had several objectives and faced a couple of important constraints. An ideal design would involve the collection of information on the characteristics of all types of university-based executive education programs currently offered and recent changes in the characteristics of those programs. In addition, it would be desirable to obtain comparable information on programs that directly or indirectly compete with university-based programs. In particular, it would be desirable to obtain data on programs provided by management consultants, industry associations, or that are offered "in-house" by companies.

The most complete data on current program offerings and recent trends could be obtained through a survey of graduate schools of management and of other providers. However, because of GMAC's concern that universities are inundated with surveys, and given the extreme difficulty of obtaining reliable survey data on the multitude of programs offered from the diverse array of other providers, it was decided that the supply analysis would be limited to secondary data sources.

In selecting the secondary data sources for the supply study, we attempted to meet three objectives:

- The data sources should enable us to cover the universe of general and functional management programs offered by graduate schools of management (and other graduate departments), management consultants, industry associations, and corporations;

- The data sources should contain comparable information over the past 10 years in order to identify important trends; and

- The data sources should include detailed information on key program characteristics such as length, class size, subject areas and cost.

As described in our design report, there are no secondary data sources that contain detailed information on the characteristics of non-university programs over time. In addition, there are very few sources of information concerning university-based programs, and only one source that contains reasonably comparable information over time. Thus, based on the criteria listed above, we selected *Bricker's International Directory* as the source of information for the supply study. Below we briefly describe this directory.[22]

Initially compiled in 1969 and updated annually, *Bricker's Directory* provides extensive information on university-based general and functional management programs that meet certain criteria. These criteria include:

- Provide a broad treatment of general management, emphasizing strategies of the firm and its functions; or treat the management of a functional or specialized area with emphasis on the relationship to general management;

- Be open to the public and not limited to one organization or industry;

- Have a minimum duration of at least one week;

- Provide for full-time, usually in-residence attendance of participants; and

- Employers sponsor and finance participants' attendance.

These criteria result in a very selective set of university-based executive education programs that "meet standards of excellence for executives at relatively high levels in their organizations" (Bricker, 1984). That is, instead of being a compendium of information on all university management programs, *Bricker's Directory* contains only those in-residence programs that meet the editor's standards of excellence and that meet other selection criteria relating to program duration, availability, and focus. Although these selection criteria limit the representativeness of the programs included, it must be recognized that some selection criteria are at least implicitly always used and that those used by *Bricker's Directory* are not unreasonable and have the advantage of being applied reasonably consistently over time permitting meaningful measures of change in program characteristics.

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[22] Bricker's International Directory of University Executive Education Programs (Woodside, CA: Bricker Executive Educators Service, 1985, 1980, 1975).

The *Bricker's Directory* includes substantial information of interest in selecting executive education programs. For example, each edition generally includes some information on such items as:

- Length of program;
- Program costs;
- Limited participant characteristics (e.g., management level, functional position, company size);
- Subject areas covered; and
- Methods of instruction.

To meet our objectives of describing the characteristics of programs that are currently offered as well as recent changes, we selected the 1976, 1981 and 1986 editions. Each edition describes programs that were offered in the previous calendar year. Thus, the findings described below concerning current program offerings relate to programs offered in 1985, and our analysis of recent trends is based on data for programs offered in 1975, 1980 and 1985. Before describing our results, it is important to understand the size of the data base of programs created from the listings in *Bricker's Directory*. Overall, the analysis is based on 260 general management programs and 110 functional management programs, of which the most recent edition (1986) contains descriptions of 125 general management programs and 68 functional programs. The number of participants served by these general management programs in 1985 was 10,500, whereas the number of functional management participants served was 4,600.[23]

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[23] Although the number of participants sent to longer-term university residential general management programs is considerably larger than the number sent to relatively brief functional management programs, these data also indicate a trend in greater growth of shorter programs, which is consistent with the findings presented in earlier sections.

This translates to approximately one-half of the estimated number of university residential participants based on the results of the demand analysis described in Section III.

Before examining this growth in more detail, the following section takes advantage of the greater volume of quantitative information provided in the most recent (1986) edition of the directory to provide a profile of the general and functional management programs offered during 1985. Following this profile of 1985 programs, the next section describes changes in program characteristics over the 10-year period between 1975 and 1985. Given that the amount and nature of information contained in the directory has changed somewhat over time, the longitudinal comparisons that can be reliably made over this entire 10-year period are limited to a few key program characteristics. Changes on other dimensions are identified through a comparison of the results from our analyses of the 1981 and 1986 directories.

Characteristics of University Residential Programs Listed in 1986 Directory

Program Length

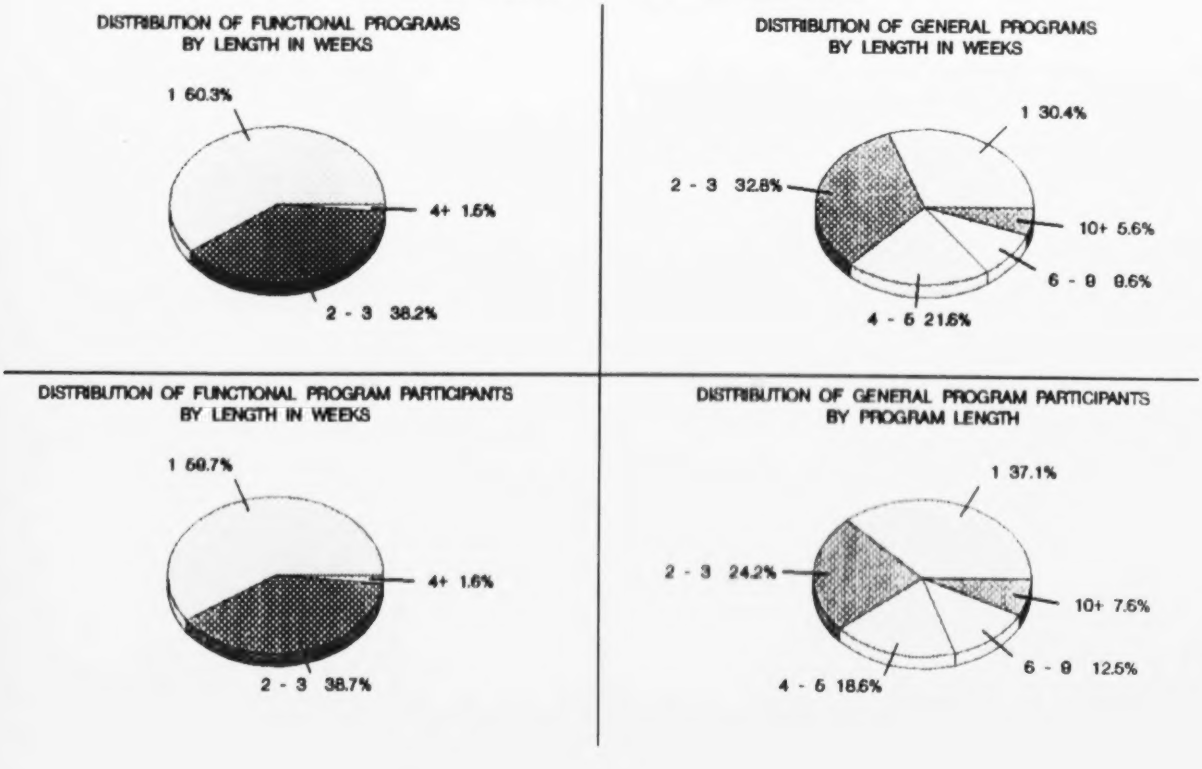
Information on the length of university residential programs contained in the 1986 *Bricker's Directory* is shown in Figure IX-1. As indicated in the upper-left-hand corner of this figure, the majority (60 percent) of functional programs are 1 week in duration and almost all other functional programs are between 2 and 3 weeks long. Fewer than 2% of the functional programs exceed 3 weeks in length.

The chart in the lower-left-hand corner of Figure IX-1 presents the distribution of participants in these functional programs in 1985. As indicated, the pattern of participants is nearly identical to the pattern of programs. That is, about 60% of all programs are 1 week in duration and about 60% of all participants attend 1-week programs. Because the distribution of participants among functional management programs of various lengths is the same as the distribution of programs, this indicates that there are no systematic differences in the enrollments of functional programs of various lengths.

The upper- and lower-right-hand corners of Figure IX-1 present the same information for general management education programs. As these results indicate, general management programs are considerably longer than functional programs. For example, only 30% of the general management programs last 1 week and 33% last from 2

FIGURE IX-1

DISTRIBUTIONS OF PROGRAMS AND PARTICIPANTS BY LENGTH IN WEEKS



DISTRIBUTION OF FUNCTIONAL PROGRAMS BY LENGTH IN WEEKS

DISTRIBUTION OF GENERAL PROGRAMS BY LENGTH IN WEEKS

DISTRIBUTION OF FUNCTIONAL PROGRAM PARTICIPANTS BY LENGTH IN WEEKS

DISTRIBUTION OF GENERAL PROGRAM PARTICIPANTS BY PROGRAM LENGTH to 3 weeks. Moreover, although fewer than 2% of the functional programs exceed 3 weeks in length, nearly 40% of the general management programs exceed 3 weeks. Specifically, approximately 22% of the general management programs are between 4 and 5 weeks long, 10% are from 6 to 9 weeks long, and over 5% are 10 weeks or longer. As a result, the average length of general management programs listed in the 1986 directory was 4.1 weeks as compared to 1.5 weeks for functional management programs.

A comparison of the results in the upper- and lower-right-hand panels of this figure indicate that the distribution of participants in general management programs differs somewhat from the distribution of programs. For example, although 30% of all general management programs are 1 week in duration, over 37% of all participants attend 1-week programs. Thus, the enrollments of these short general management programs are relatively larger. Similarly, the longer general management programs, (i.e., those over 6 weeks in length) serve a disproportionately larger percentage of all participants. Specifically, about 15% of all programs are over 6 weeks long, whereas 20% of all 1985 participants in general management programs attended these longer programs. Thus, enrollments in both the longer and the shorter general management programs are relatively larger than for the middle-duration (2-5 week) programs.

Program Costs

Program costs are an important element in the selection of an executive education program. The *Bricker's Directory* reports cost information that generally includes program tuition, room and meals. Because this measure does not include the salary costs of managers/executives while they are attending the program on company time, the cost reported in the directory should understate considerably the full cost of program attendance obtained from our corporate survey. In fact, our results indicate that the average costs of university residential programs reported in the directory are roughly 60 to 70% of the costs obtained from company survey data.

The distribution of program costs for functional and general management programs is illustrated in Figure IX-2. Because functional programs are considerably shorter than general management programs, the results in this figure adjust for this difference by expressing program costs in terms of "cost per week of training".[24] As

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[24] As expected, because of their greater overall length, the average cost of general management programs in 1985 of $5,700 is nearly double the $3,100 average cost of functional management programs. About 60% of all general management programs cost less than $5,000 and nearly 10% cost over $10,000. For functional management programs, about 60% cost less than $3,000 and only slightly over 10% cost over $5,000.

FIGURE IX-2

DISTRIBUTION OF FUNCTIONAL PROGRAM COST PER WEEK OF TRAINING

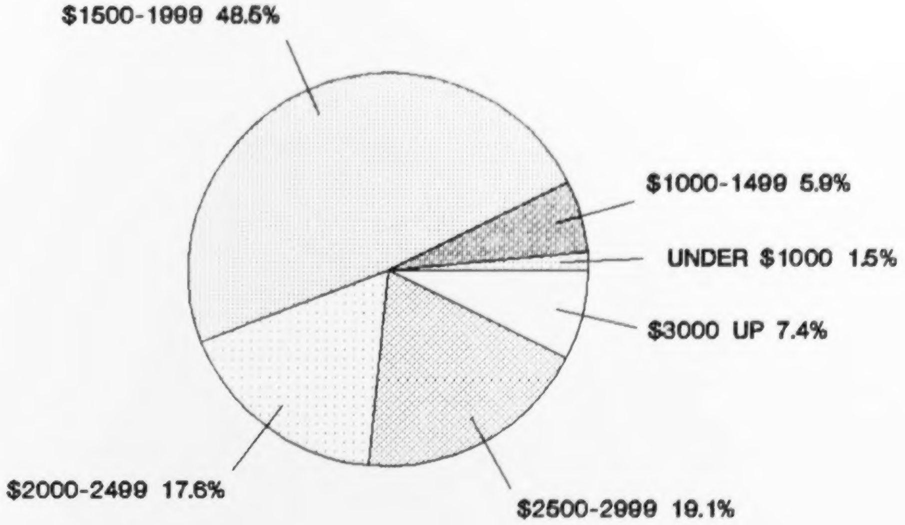
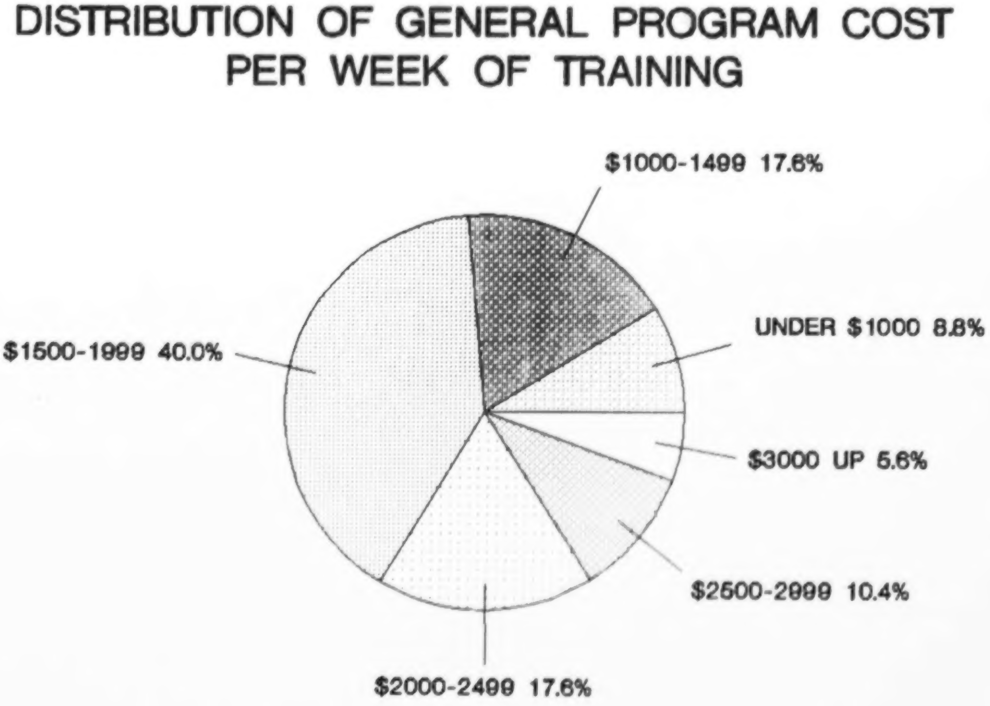


FIGURE IX-2 (continued)



these results indicate, nearly 50% of the functional management programs included in the 1986 directory cost between $1,500 and $2,000 per week and fewer than 10% cost less than $1,500. In contrast, slightly over one-fourth of the general management programs cost under $1,500 per week. Largely because of the greater number of lower cost general management programs, their average cost per week of $1,820 is slightly lower than the $2,090 average weekly cost of functional programs.

Characteristics of Participants

As discussed in Section IV, relatively expensive, long-term training associated with university residential programs is typically reserved for the upper levels of management. As described in Figure IX-3, this finding is reinforced in the analysis of management levels attending the programs included in the 1985 *Bricker's Directory.* That is, for both functional and general programs, nearly 80% of the participants were from either upper or top levels of management; participants in these programs are rarely (less than 5%) from the entry-level ranks of management. Given the costs of roughly $2,000 per week and the substantial time commitments involved, this is not a surprising finding. Thus, as currently structured, university residential programs appear to be narrowly targeted to the upper levels of management.

Another characteristic of participants available from the 1986 *Bricker Directory* is the size of the firms sending participants to these programs. The results of our analysis of this factor revealed that larger firms are responsible for a much greater share of total program participants. For example, 60% of all participants in general management programs are from companies with at least 10,000 employees, 29% are from companies with between 1,000 and 10,000 employees, and 11% are from smaller companies. The corresponding percentages for functional management programs are very similar: 57%, 36% and 7%. Because only about one-tenth of the participants in these programs are from companies with fewer than 1,000 employees, this indicates that our estimate of the size of the market for university residential programs described in Section III is likely to understate the overall size of the market for such programs by a small amount.

We also examined participants in these programs in terms of the management functions they perform in their companies. As shown in Figure IX-4, there are representatives from all major management functions in both program types. For the

FIGURE IX-3

DISTRIBUTION OF FUNCTIONAL PROGRAM PARTICIPANTS BY MANAGEMENT LEVEL

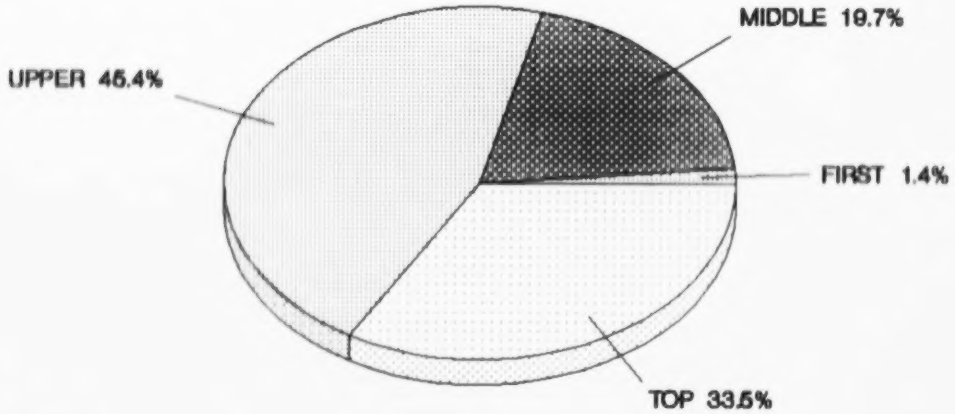
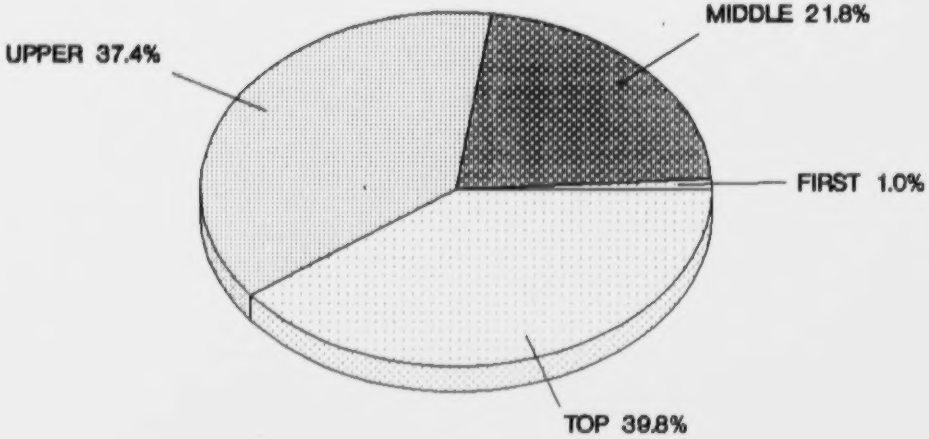


FIGURE IX-3 (continued)



DISTRIBUTION OF GENERAL PROGRAM PARTICIPANTS BY MANAGEMENT LEVEL

FIGURE IX-4

DISTRIBUTION OF THE FUNCTIONS OF PARTICIPANTS FOR FUNCTIONAL PROGRAMS

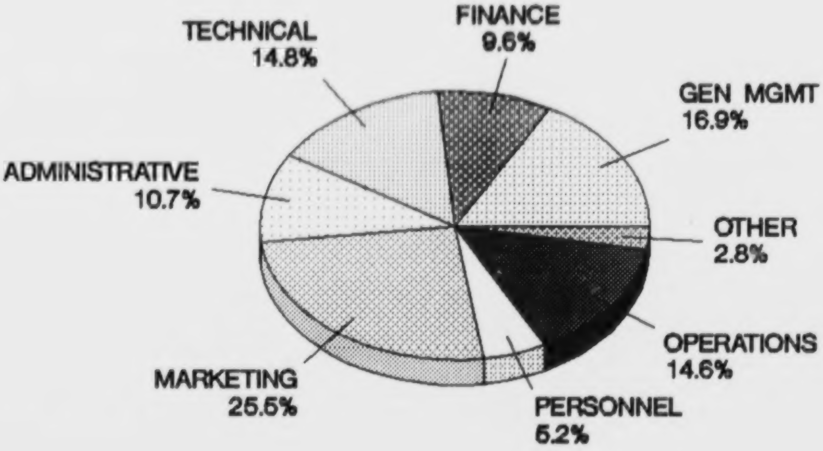
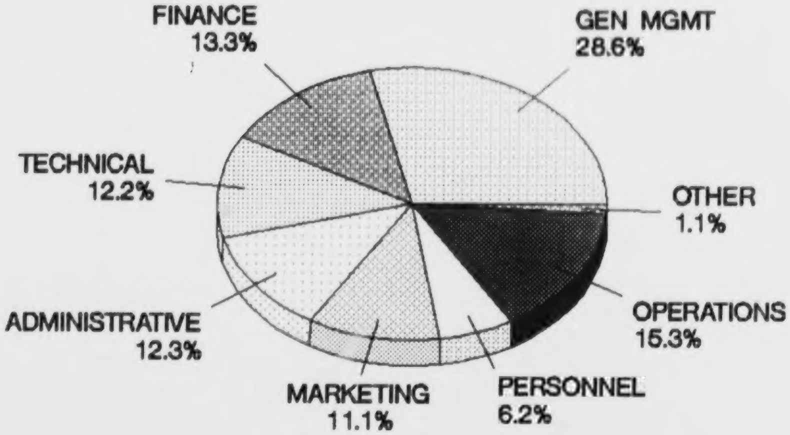


FIGURE IX-4 (continued)

DISTRIBUTION OF THE FUNCTIONS OF PARTICIPANTS FOR GENERAL PROGRAMS



most part, the distributions of management functions among the general and functional management programs are very similar. The only noteworthy differences are the greater likelihood of attendance by employees who serve general management functions in general programs than in functional programs, and the greater likelihood of employees who serve marketing and sales functions attending functional management programs. It appears that the employees who function in marketing and sales positions are primarily attending specific marketing management programs. Overall, there does not appear to be any specialization or segmentation of these university residential programs regarding the functional duties performed by the participants.

Recent Changes in the Characteristics of University Residential Programs

In addition to examining the characteristics of university residential programs included in the 1986 edition of *Bricker's Directory*, we also examined trends in key characteristics over time. Below we summarize our results concerning program length, costs and subjects offered.

Program Length

In Figure IX-5 we describe changes in the average length of general and functional programs between 1976 and 1986. As this figure indicates, both program types have experienced sharp declines in program length in recent years. General programs declined from an average of about 6.5 weeks in 1976 to 4.1 weeks in 1986. As noted above, functional programs are generally much shorter than general management programs, but became even shorter between 1976 and 1986 declining from about 2.6 weeks to 1.6 weeks.

The changing distributions of functional and general programs by length is shown in more detail in Figure IX-6. The data in this figure focus on the changes from 1981 to 1986 because the limited number of functional programs included in the 1976 edition can not support this more detailed analysis. This figure shows that the decline in program length is primarily due to the sharp increase in the percentage of programs that are only 1 week duration. For example, from 1981 to 1986, the fraction of general management programs included in the directory that were 1-week long increased approximately 20 percentage points (from 11% to 30%), and the fraction of all functional management programs that were 1-week long also increased considerably (from 46% to 60%).

FIGURE IX-5

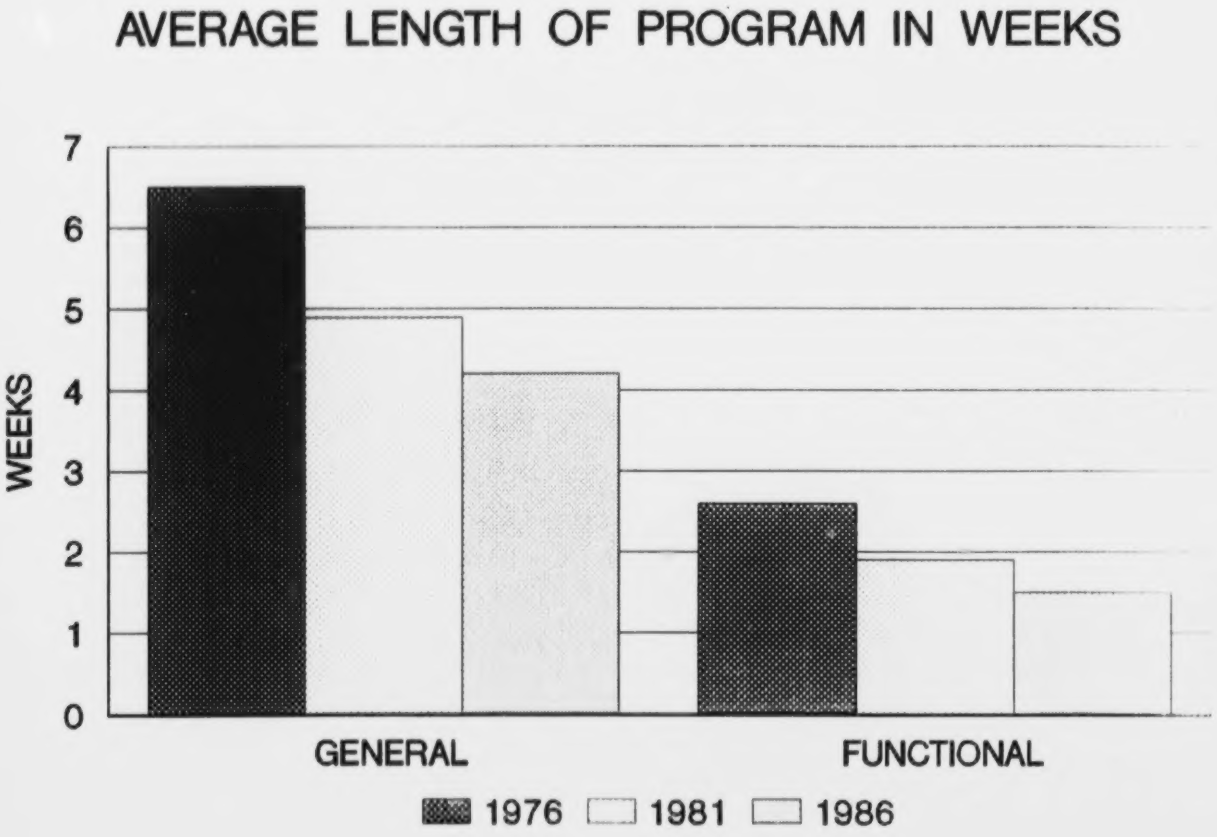
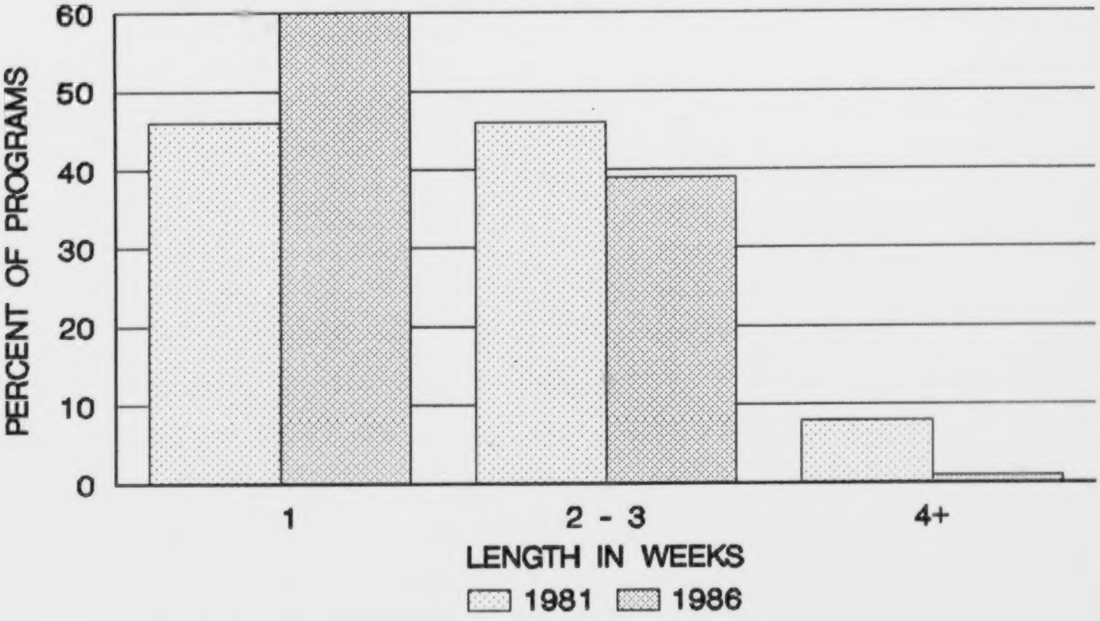
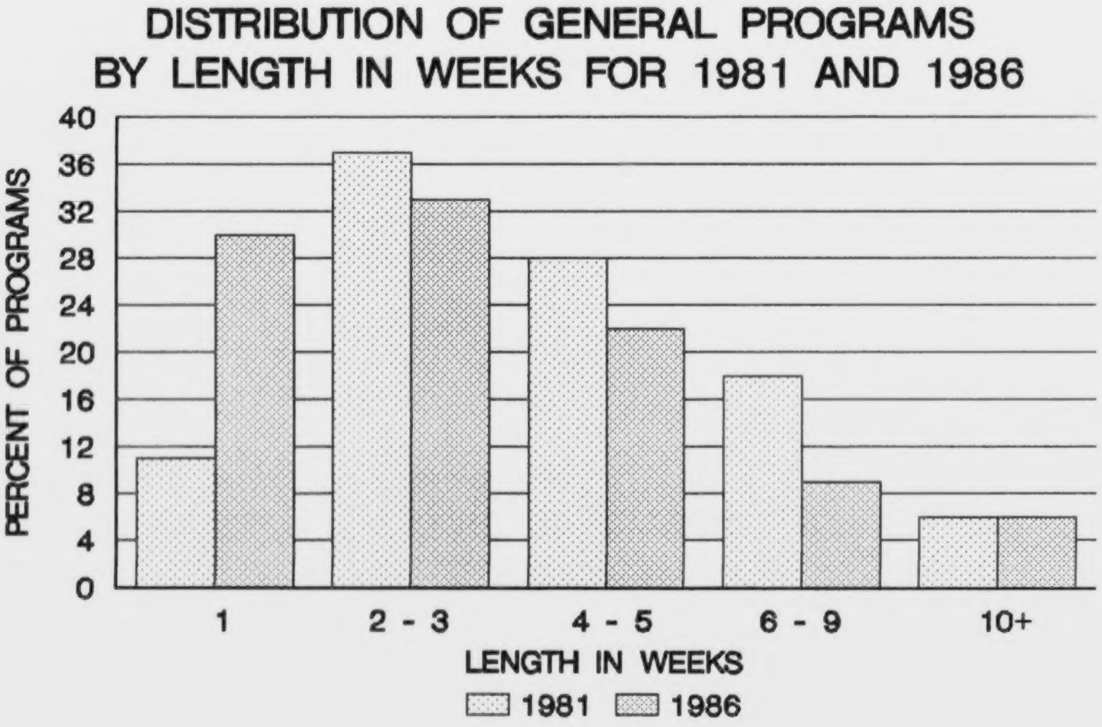

AVERAGE LENGTH OF PROGRAM IN WEEKS
WEEKS
7
6
5
4
3
2
1
0
GENERAL
FUNCTIONAL
▩ 1976
☐ 1981
☐ 1986

FIGURE IX-6



DISTRIBUTION OF FUNCTIONAL PROGRAMS BY LENGTH IN WEEKS FOR 1981 AND 1986

FIGURE IX-6 (continued)



In an analysis not shown, we examined the changes in average program length to determine if the decline was due to a shortening of existing programs, an elimination of longer programs or an increase in new, shorter programs. In the case of both functional and general programs, the major factor is the development of new shorter programs. Thus, the growth in the number of programs contained in the *Bricker Directories* was much greater among shorter programs causing the average program length to decline. This pattern was stronger among general programs than among functional programs.

A slightly different version of the changing program length is described in Figure IX-7. Here, we depict the change in the distribution of participants (as opposed to programs) among programs of varying length. The pattern is identical to the changes in programs suggesting that enrollments in the new, shorter programs has roughly matched the increase in the number of these programs. Just as shorter programs have begun to dominate the university residential listings in the directory, the number of participants attending these programs have become concentrated within the shorter (particularly the 1-week) programs.

These findings regarding the changing nature of the supply of university residential programs is consistent with our findings regarding the use of university residential programs by the firms in our survey. As described in Section VII, an important recent trend among firms is a shift away from the longer, more expensive program types toward short courses and short-duration company-specific programs. Despite the consistent finding that firms are increasingly interested in executive education and are willing to devote considerable resources to providing that training, there is a growing preference for shorter durations of time spent away from the job. This desire to limit time spent in training courses is very evident in the changing composition of programs in *Bricker's Directory*, particularly among the new program offerings.

Program Costs

The 1976, 1981 and 1986 editions of *Bricker's Directory* also provide reasonably comparable information on program costs over this 10-year period. In the first panel of Figure IX-8, we display changes in average program costs for general and functional management programs. In order to adjust for inflation, this cost information is expressed in constant 1985 dollars. Overall, during this period the average cost of general management education programs have remained between $5,300 and $6,300 in constant 1985 dollars, with no strong trend. The average cost of functional programs have also remained relatively constant at about $2,500 to $3,000 per participant. However, these

FIGURE IX-7

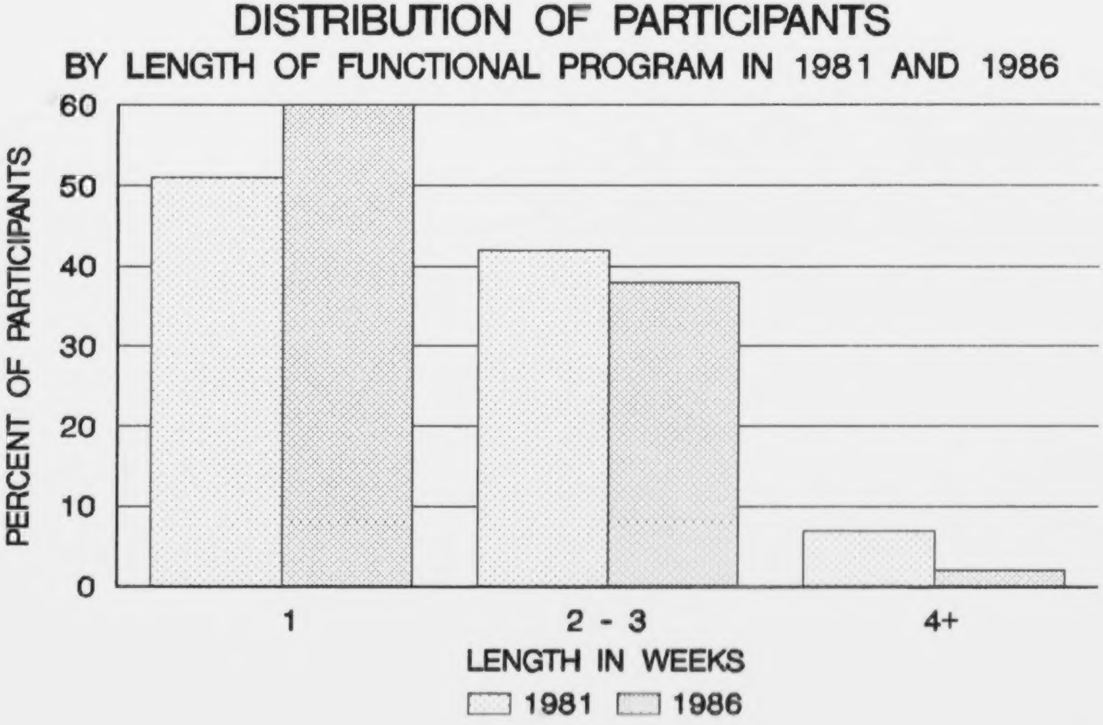

DISTRIBUTION OF PARTICIPANTS
BY LENGTH OF FUNCTIONAL PROGRAM IN 1981 AND 1986
PERCENT OF PARTICIPANTS
60
50
40
30
20
10
0
1
2 - 3
4+
LENGTH IN WEEKS
1981
1986

FIGURE IX-7 (continued)

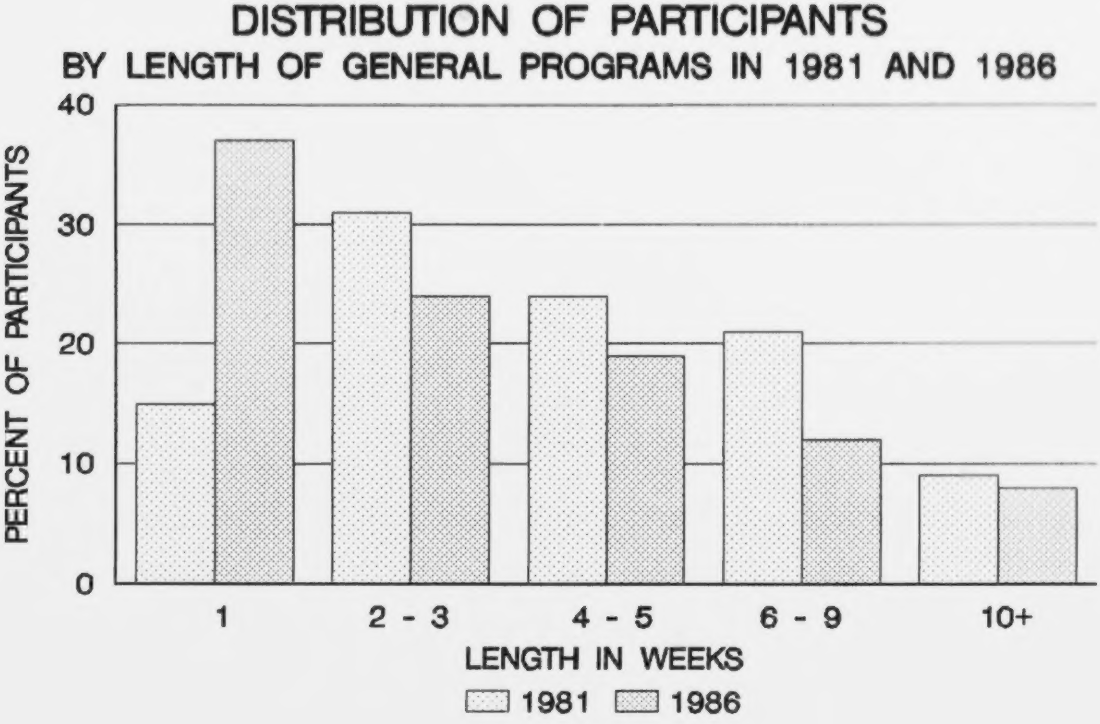


FIGURE IX-8

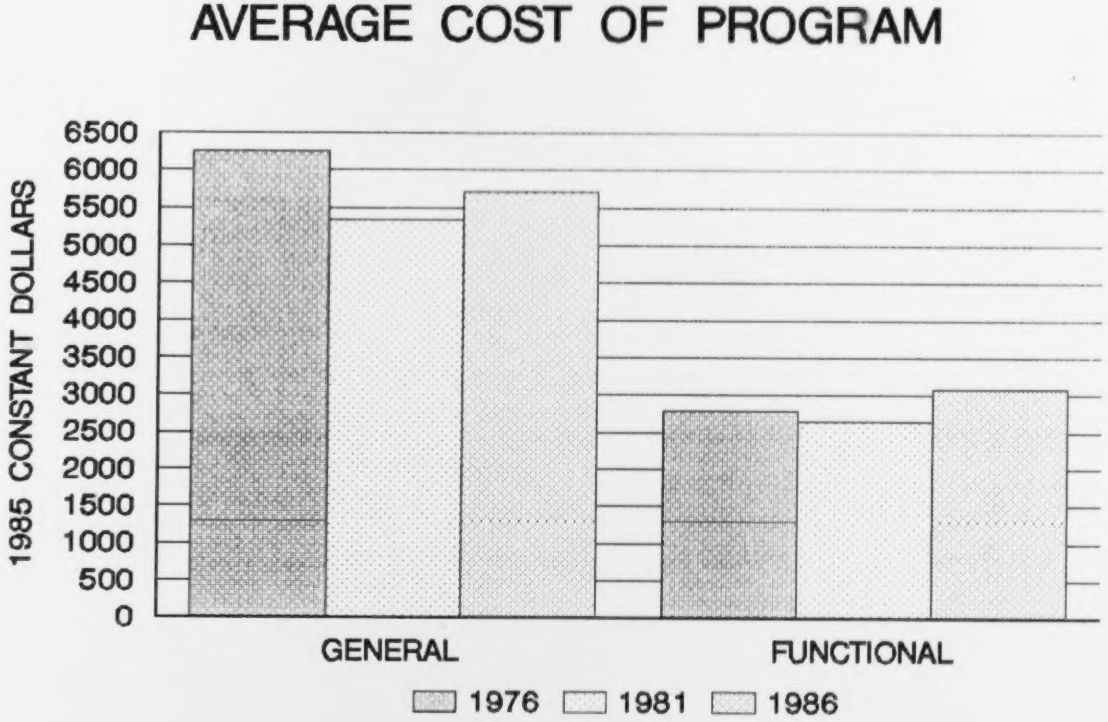
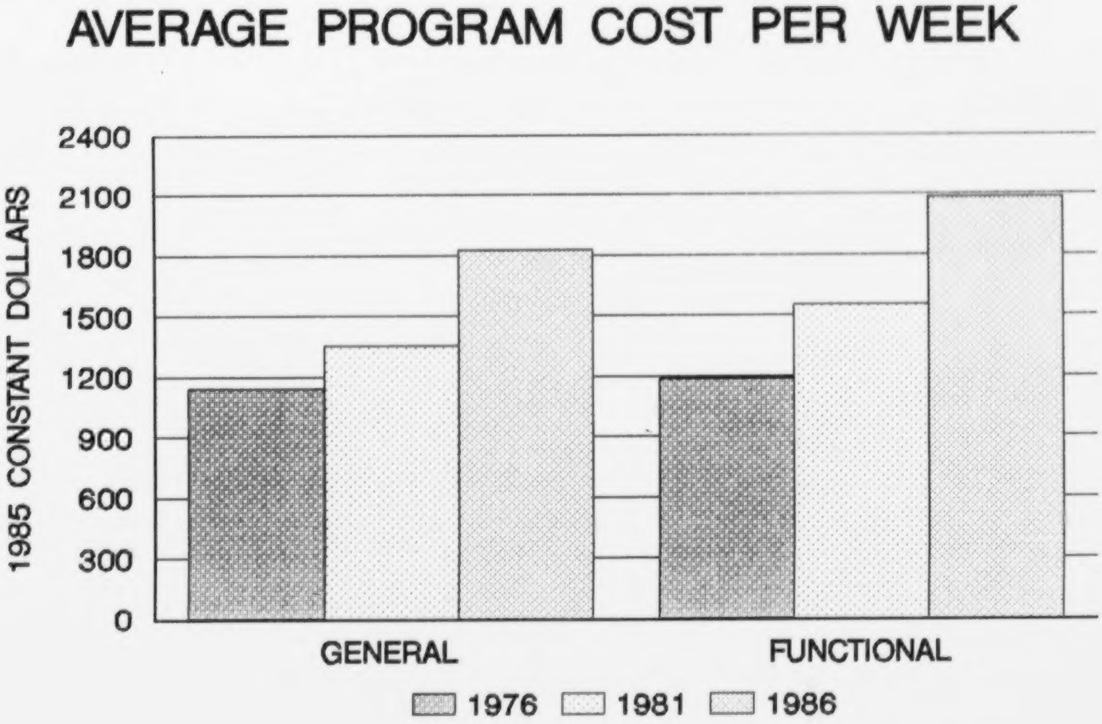

AVERAGE COST OF PROGRAM
1985 CONSTANT DOLLARS
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
GENERAL
FUNCTIONAL
1976
1981
1986

FIGURE IX-8 (continued)



cost figures must be interpreted carefully, particularly given the sharp declines in average program length.

In order to adjust for the recent decline in program duration, in the second panel of Figure IX-8 we report average costs per week of training for both program types. The results indicate a steady increase in the weekly costs of both general and functional programs. For example, although both program types cost on average approximately $1,100 per week in 1975, by 1985 the weekly cost of training increased to slightly over $1,800 for general management programs and to approximately $2,100 for functional management programs. It should also be noted that these increases were greatest in the 5-year period from 1981 to 1986. A large part of the increase is due to the higher costs of the programs added to the *Bricker Directory* between 1981 and 1986. These new additions were not only shorter, contributing to the decline in average program length, but were also more costly than the programs that remained in the directory throughout the 10-year period.

Subjects of Functional Management Programs

A final issue concerns recent changes in the topics covered by university residential programs. In Figure IX-9, we illustrate these trends using data from the *Bricker's Directory* for functional management programs included in the 1981 and/or 1986 editions. Specifically, this figure shows the percentage of participants in functional management programs that dealt with each of the subjects listed. Because a program could mention multiple subjects, it should be noted that the percentages do not sum to 100%.

As this figure indicates, it appears that the functional management programs are becoming somewhat more specialized. One indication of this is the decline in the number of programs that mentioned general management as a subject (from 90% in 1981 to 58% in 1986). Another indication is the apparent rapid growth in relatively new and emerging issues. For example, participants in functional management programs that covered topics in technology, computers and information systems and international issues grew considerably since 1981. The types of programs that showed a decrease in apparent use are functional management programs in personnel and in liberal arts.

FIGURE IX-9

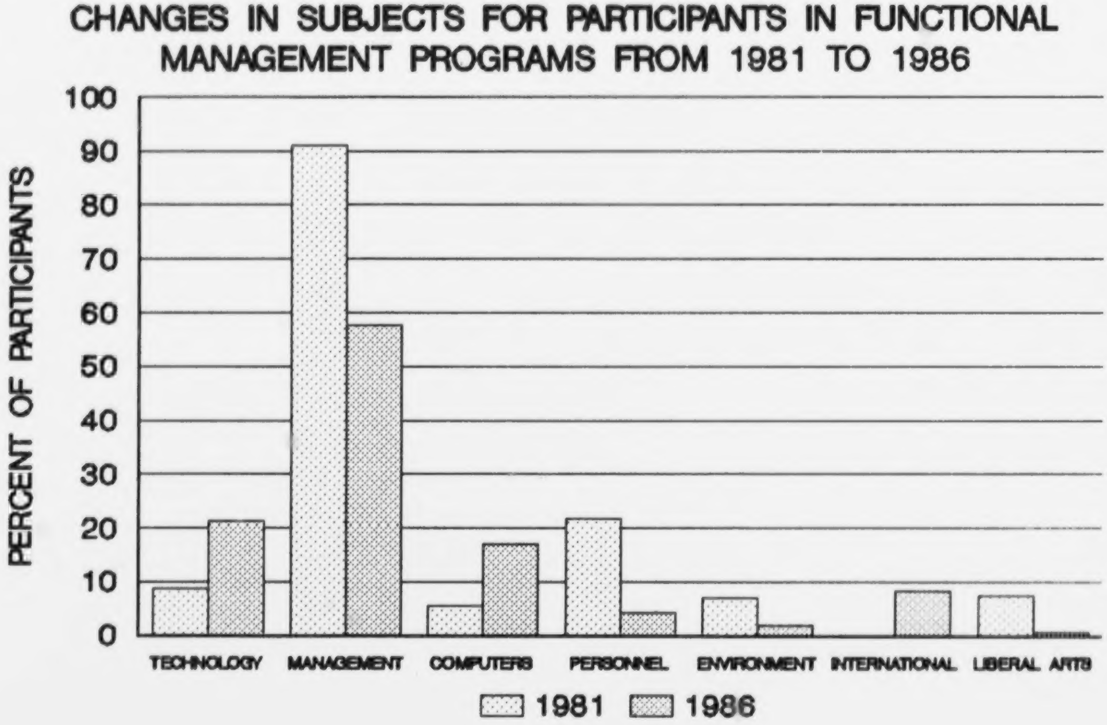
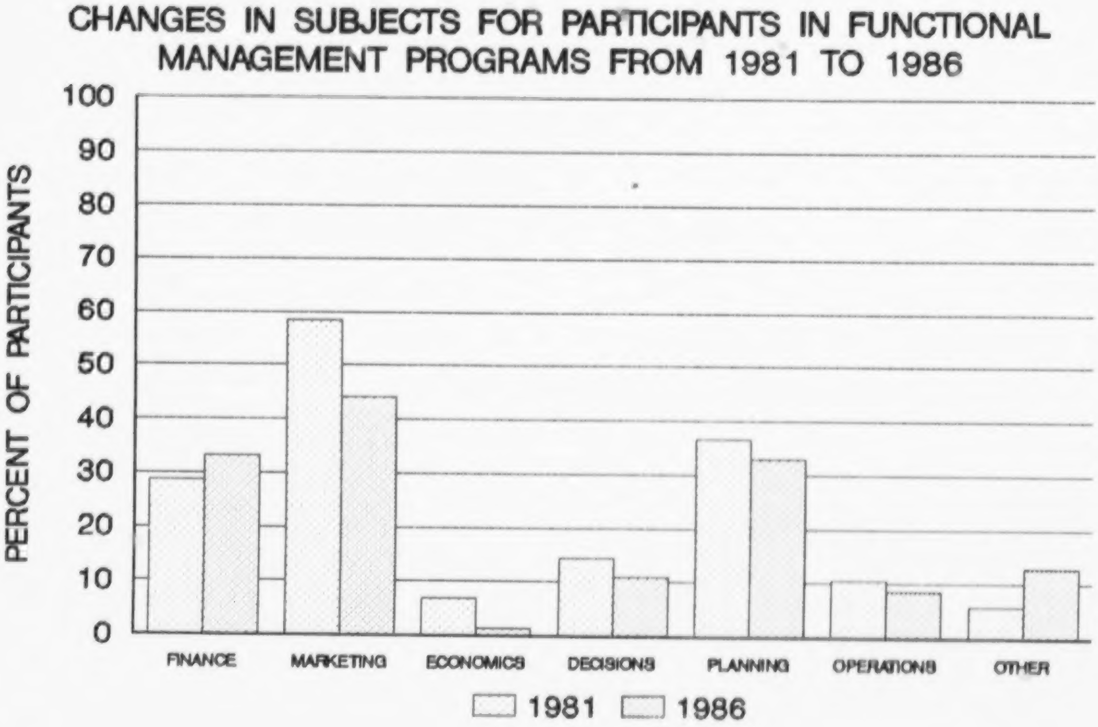

CHANGES IN SUBJECTS FOR PARTICIPANTS IN FUNCTIONAL MANAGEMENT PROGRAMS FROM 1981 TO 1986
PERCENT OF PARTICIPANTS
100
90
80
70
60
50
40
30
20
10
0
TECHNOLOGY
MANAGEMENT
COMPUTERS
PERSONNEL
ENVIRONMENT
INTERNATIONAL
LIBERAL ARTS
1981
1986

FIGURE IX-9 (continued)



APPENDIX A

DATA COLLECTION PROCEDURES AND RESPONSE RATES

APPENDIX A

DATA COLLECTION PROCEDURES AND RESPONSE RATES

As described in Section II, our analysis of the demand for executive education programs is based on a survey of large U.S. companies that was conducted between February and June, 1987. In this appendix, we describe our data collection procedures, our experiences in implementing those procedures, and the results of a response-rate analysis.

The data collection effort began with a telephone call to each of the 1,000 companies initially selected. Using the general telephone number provided on the Dunn and Bradstreet data base, we asked to speak with the Vice President of Human Resources. If there was no one with that title, we instead asked to speak with "the person responsible for executive development in the company." After reaching the appropriate person, we described the study, indicated that we would like to send a survey for his/her completion, requested cooperation and verified the person's name, address, and title. To encourage participation we also indicated that all companies that completed a survey would receive an executive summary of the study findings.

During the process of making the initial telephone contacts, we encountered several problems. For example, a few of the companies were no longer in existence, several companies were selected inappropriately (i.e., were very small -- fewer than 100 employees -- or were a public/nonprofit agency), and some immediately refused to participate in the study. In order to ensure an adequate analysis sample, we decided to supplement the initial sample of 1,000 companies with another 100 companies, resulting in a pool of 1,100 companies that we initially attempted to reach. Consistent with the initial sample selection, these additional companies were also selected randomly from the sample frame, with probability proportional to number of employees. Because 115 companies either no longer existed, could not be reached or were determined to have been inappropriate for the study, this resulted in a revised initial sample of 985 companies. Of these 985 companies, 93 indicated during the initial contact that they would not participate in the study. This resulted in an initial mailing of 892 questionnaires.

The questionnaires were sent along with a personalized cover letter and a brief summary of the project. The summary described Battelle, GMAC and overviewed the major components of the study. It also described the benefits to companies from participating in the survey and ensured confidentiality of all information obtained. We requested that the completed surveys be returned within approximately two weeks.

Companies that did not return the surveys within 3-4 weeks were contacted to determine whether the questionnaire was never received or lost -- so that a replacement could be sent -- or whether the respondent was in the process of completing the survey or whether s/he intended to complete it. Many companies were contacted several times to determine the status of the questionnaire. For respondents who indicated they did not have the time to complete the entire mail survey, we offered a brief 10-15 minute telephone mini-survey.

Based on these data collection procedures, we ultimately received 444 completed mail surveys and 167 telephone mini-surveys for a total sample size of 611. Out of the 985 companies appropriate for the study, this corresponds to an overall response rate of 62%. Moreover, this corresponds to nearly a 70% response rate for the group of companies that were initially sent a mail questionnaire.

Although a 60-70% response rate is quite high for this type of survey, the validity of our analysis depends critically on the degree to which the analysis sample is representative of the population being studied. Because the original sample was selected randomly (weighted by the number of employees) from the population of companies with at least 1,000 employees, it comprises a representative sample of employees in large companies. To determine whether we can reliably generalize our results to employees in all large companies, below we compare responding companies with nonresponding companies on a few characteristics that are available in the Dunn and Bradstreet data for both types.

In Table A-1, we present overall response rates by geographic location of the company headquarters, industrial sector and company size. For the most part, there are only relatively minor differences in the company response rates on these dimensions. For example, using the four Bureau of the Census regions to define region of the company headquarters, the response rate varies only from a low of 58% for companies in the Northeast to a high of 64.4% for companies in the Midwest. The Chi-squared statistic of 3.4 with 3 degrees of freedom has a significance level of .34.

Table A-1

Response Rates By Selected Company Characteristics

Characteristic	Response Rate (%)	Chi-Squared
Geographic Location		
West	60.7	
Midwest	64.4	
Northeast	58.0	
South	64.3	3.4
Industry		
Agriculture, mining, construction	60.4	
Nondurable manufacturing	57.3	
Durable manufacturing	63.0	
Metal manufacturing	56.5	
Electrical manufacturing	60.3	
Transportation, communications	70.1	
Wholesale and retail trade	57.6	
Banking	62.0	
Insurance	68.1	
Real estate and other financial	67.9	
Business services	58.8	
Health services	69.4	
Other services	62.2	10.2
Number of Employees		
1,000-2,999	59.1	
3,000-4,999	58.4	
5,000-9,999	60.8	
10,000-24,999	61.3	
25,000-49,999	71.3	
50,000 and over	75.0	10.1

The sample of companies that responded to our survey also appears to be very representative of large companies by industry. For example, of the 13 industrial sector categories, response rates vary from a low of 56.5% for metal manufacturing companies to a high of 70% for companies in the transportation sector. Moreover, 9 of the 13 industrial sectors had response rates of between approximately 57-63%. The resulting Chi-squared statistic for industry differences of 10.2 with 12 degrees of freedom has a significance level of .60. The other characteristic reported in Table A-1 relates to company size. Although the response rates for the four size categories with fewer than 25,000 employees are virtually identical at about 60%, there is a pattern that larger companies are more likely to respond to our survey. Specifically, companies with 25,000-49,999 employees had a 71% response rate, and companies with 50,000 or more employees had a 75% response rate. Although this indicates that our analysis sample may slightly overrepresent larger companies -- and therefore overrepresent employees and managers in larger companies -- the Chi-squared value of 10.1 with 5 degrees of freedom is not significant at the .05 level. Thus, it appears that our overall analysis sample is broadly representative of the initial population of large companies from which it was drawn.

In addition to examining the representativeness of our overall analysis sample, we also examined the composition of the analysis sample to determine whether there were any systematic differences in the characteristics of companies that (1) completed a mail questionnaire, (2) completed a telephone mini-survey, (3) refused initially and were never sent a survey, or (4) subsequently did not respond to either the mail or telephone survey. The significance levels associated with the Chi-squared statistics for these comparisons are .13 for the region of the company headquarters, .24 for industrial sector, and .13 for company size. The lack of significant differences between the characteristics of companies that completed the mail and telephone surveys increases our confidence in the generalizability of results reported in the main body of the report that are based solely on data obtained from the mail questionnaire.

APPENDIX B

CORPORATE SURVEY

THE NATIONAL SURVEY OF EXECUTIVE/MANAGEMENT EDUCATION

BATTELLE HUMAN AFFAIRS RESEARCH CENTERS
4000 N.E. 41ST. STREET
P.O. BOX C-5395
SEATTLE, WA 98105
(206) 525-3130, EXT. 332

THE NATIONAL SURVEY OF EXECUTIVE/MANAGEMENT EDUCATION

SUMMARY

OVERVIEW OF STUDY

The National Survey of Executive/Management Education is being conducted by Battelle Memorial Institute, a worldwide nonprofit research organization that was established in 1929. This study is being conducted under contract to the Graduate Management Admission Council, an organization of approximately 70 university management programs concerned with providing programs that meet business needs. The survey is part of a national study designed to identify needs and trends in executive/management education. The survey focuses on how corporate America is utilizing and planning to use executive/management education programs. The survey will obtain information concerning the use of executive/management education programs from a representative sample of approximately 400 U.S. companies. Your company's invitation to participate is a result of a careful selection process, taking into account factors such as company size and industry type.

BENEFITS

All companies that participate in the survey will receive a summary of the study results, which will provide information on how U.S. companies use executive education programs, utilization of various program types, future trends, etc. In addition to the survey findings, the study summary will include highlights of our analyses of important trends in executive/management education program offerings. The findings of this study will help you assess your company's approach to executive/management education as compared to other organizations. Additionally, the study will provide information that will help university executive education programs better meet the needs of industry.

CONFIDENTIALITY

Battelle adheres to the strictest standards of scientific confidentiality. Information furnished by each organization will be kept in complete confidence by Battelle. Your responses to the survey will be combined with those of the other companies selected; individual organizations will not be identified in any way.

COMPLETION AND RETURN OF SURVEY

The survey should be completed by the individual in your organization responsible for executive education. However, accurate completion of the survey may require that this person obtain input from others who are familiar with executive education issues at your company or have information necessary for the survey. Please return your completed survey within 2 weeks. A stamped return envelope is enclosed for your convenience.

QUESTIONS?

If you have any questions about the survey or the study in general, please call collect (206) 525-3130, ext. 332, and ask for Denise Zimmerle (10:00 a.m. to 5:00 p.m. West Coast time).

INSTRUCTIONS/DEFINITIONS

Each section of this survey contains a series of questions and at the end of the survey there is additional space for comments. Unless otherwise indicated, all questions are to answered by circling the appropriate response. For the few questions that ask for a numerical response, if you do not have the information readily available, we would very much appreciate your **best estimate** and/or asking others for their input. Please answer every question that pertains to your company--we value your input on all items. Depending on the extent to which your company utilizes various programs, the survey should take you or your staff approximately 45-90 minutes to complete. Please return the survey in the attached stamped envelope within 2 weeks of receipt.

Throughout the survey we use a number of terms to represent different types of executive training programs and different levels of management. To ensure clarity and consistency in interpretations, we provide the following definitions of those terms:

PROGRAM TYPE

UNIVERSITY RESIDENTIAL: Programs offered by universities for executives/managers from various companies, which are campus-based, do not grant a degree, and require **full-time residential attendance for at least 1 week and at most 14 weeks**. Due to the residential nature of these programs, participants are unable to perform their jobs at the same time.

EXECUTIVE MBA: Programs **designed specifically for executives**, which grant an MBA degree, and last 9 months to 2 years. Participants attend these programs on weekends and/or one day during the work week while performing their jobs. Participants in these programs are not normally in-residence, except for perhaps a short time either at the beginning or end of the program. Note: The category "Executive MBA" does **not** include General MBA programs or Sloan programs offered by MIT and Stanford.

SHORT COURSE: Open-enrollment programs that are typically **1-3 days** in length (definitely less than a week) and generally cover one or two topics. These short courses are offered by universities, consultants, and private organizations/associations to participants from **several** companies.

COMPANY SPECIFIC: Programs designed specifically for executives/managers in **your** company, either developed by company personnel, consultants, or a university, but designed for and attended **exclusively** by your company's executives/managers. These programs may be offered at your company's facilities, at those of a consultant or university, or at an off-site location.

MANAGEMENT LEVEL

FIRST/ENTRY:	First-level supervisors; the lowest level of management.
MIDDLE:	Individuals above first-level supervisors, but not yet considered upper-level managers.
UPPER:	Individuals who are generally heads of a functional area or heads of major business units.
TOP:	Individuals who are senior-level executives, or vice presidents. These people are considered active policy makers in the company.

IF YOU HAVE ANY QUESTIONS IN COMPLETING THIS SURVEY, PLEASE CALL DENISE ZIMMERLE COLLECT AT (206) 525-3130, EXT. 332.

I. GENERAL QUESTIONS ON EXECUTIVE/MANAGEMENT EDUCATION

1. Which of the following activities are part of executive/management education (or development) at your company? (Circle Y for Yes or N for No for each activity)

Participation in formal programs, either company or external	Y	N
On-the-job training/development	Y	N
Job rotation/succession planning	Y	N
Participation in special projects/task forces	Y	N
Coaching/mentoring	Y	N
Job performance evaluation and feedback	Y	N
Career planning	Y	N
Other (specify) ______________________	Y	N

2. Does your company have a policy that requires executives/managers to participate in formal management education programs? . . . . Y N

IF YES, ANSWER THE QUESTIONS IN THE BOX BELOW;
IF NO, SKIP TO QUESTION 3.

2a. For whom does the policy apply?

First (entry-level supervisors)	Y	N
Middle (above first-level supervisors)	Y	N
Upper (heads of functional area or business unit)	Y	N
Top (active policy makers)	Y	N

2b. **Approximately** how many years has this policy been in effect? Years______

3. Does your company have documented procedures or practices for determining the education needs for executives/managers (i.e., for conducting a needs analysis)? . . . . Y N

IF YES, ANSWER THE QUESTION IN THE BOX BELOW;
IF NO, SKIP TO THE NEXT PAGE

3a. For which levels of management is this done?

First (entry-level supervisors)	Y	N
Middle (above first-level supervisors)	Y	N
Upper (heads of functional area or business unit)	Y	N
Top (active policy makers)	Y	N

II. UNIVERSITY PROGRAMS

This section contains a series of questions about two major categories of university executive/management programs: University Residential and Executive MBA. To ensure consistency in interpretations, our definitions of these programs are provided on the inside front cover of the survey. In addition, at the end of this section we ask a few questions about General MBA and Sloan programs.

PROGRAM USE

	University Residential		Executive MBA	
1. Did your company send any executives/managers to University Residential or Executive MBA programs in 1986?	Y	N	Y	N

IF YOU ANSWERED YES TO BOTH, PLEASE SKIP TO QUESTION 2; IF YOU ANSWERED NO TO EITHER, PLEASE ANSWER THE QUESTION IN THE BOX BELOW FOR THE APPROPRIATE PROGRAM TYPE(S)

1a. Which of the following would you consider to be major reasons why your company did not use one or both of these types of programs in 1986?

	University Residential		Executive MBA	
Executives/managers at our company have no need for this type of program	Y	N	Y	N
Executives/managers not interested in such programs . .	Y	N	Y	N
Don't have adequate information on them	Y	N	Y	N
Program content does not meet our needs	Y	N	Y	N
Too much academic emphasis--not practical	Y	N	Y	N
Quality programs not available locally	Y	N	Y	N
Too much time away from job	Y	N	Y	N
Program tuition/other costs too high	Y	N	Y	N
We provide comparable in-company programs	Y	N	Y	N
Other (specify) ______________________	Y	N	Y	N
Other (specify) ______________________	Y	N	Y	N

IF YOU USED NEITHER UNIVERSITY RESIDENTIAL NOR EXECUTIVE MBA PROGRAMS IN 1986, SKIP TO QUESTION 12 ON PAGE 5; OTHERWISE CONTINUE TO THE TOP OF THE NEXT PAGE

PLEASE ANSWER QUESTIONS 2-9 FOR THE PROGRAM TYPE(S) USED BY YOUR COMPANY IN 1986

2. Which levels of management do you send to these programs?

	University Residential	Executive MBA
First (entry-level supervisors)	Y N	Y N
Middle (above first-level supervisors)	Y N	Y N
Upper (heads of functional area or business unit)	Y N	Y N
Top (active policy makers)	Y N	Y N

3. Does your company send a certain number of executives/managers to particular programs on a regular basis (e.g., maintain slots in the program)? . . . Y N Y N

DECISIONMAKING PROCESS

4. How do you and others in your company learn about each of these programs?

University program brochures/mailings	Y N	Y N
Source books (e.g., Bricker's Directory)	Y N	Y N
Computerized directories	Y N	Y N
Company information (e.g., company brochure summarizing university programs)	Y N	Y N
Recommendations of past participants	Y N	Y N
Recommendations of other companies	Y N	Y N
Visits to programs by company personnel	Y N	Y N
Visits to company by program personnel	Y N	Y N
Other (specify) ________________	Y N	Y N
Other (specify) ________________	Y N	Y N

5. Why does your company send executives/managers to these programs? (For each program type used in 1986, circle 1, 2, or 3 for each reason listed using the scale below)

1 = A primary reason; 2 = A secondary reason; 3 = Not a reason

Broaden the individual, gain a new perspective	1 2 3	1 2 3
Chance to interact with other executives	1 2 3	1 2 3
Obtain job-specific knowledge/skills	1 2 3	1 2 3
Obtain state-of-the-art knowledge/skills	1 2 3	1 2 3
Reward to an executive	1 2 3	1 2 3
Prepare individual for next job in company	1 2 3	1 2 3
Obtain general management education	1 2 3	1 2 3
Cost effective relative to other program types	1 2 3	1 2 3
Obtain quality instruction	1 2 3	1 2 3
Other (specify) ________________	1 2 3	1 2 3
Other (specify) ________________	1 2 3	1 2 3

6. How important is each of the following factors in making a decision regarding which program **of a particular type** (e.g., which university residential program) is used by your company? (For each program type used in 1986, circle 1, 2, or 3 for each factor listed using the scale below)

1 = An extremely important factor
2 = A somewhat important factor
3 = Not a factor

	University Residential	Executive MBA
Program content/subject matter	1 2 3	1 2 3
Program fees	1 2 3	1 2 3
Program length	1 2 3	1 2 3
Other participants (companies) enrolled	1 2 3	1 2 3
Needs of the participant	1 2 3	1 2 3
Preferences of the participant	1 2 3	1 2 3
Regional convenience	1 2 3	1 2 3
Program effectiveness	1 2 3	1 2 3
Reputation of the program	1 2 3	1 2 3
Reputation of the university	1 2 3	1 2 3
Other (specify) ____________	1 2 3	1 2 3
Other (specify) ____________	1 2 3	1 2 3

7. In general, who **nominates** employees in your company to attend these programs?

Participant can nominate self	Y	N	Y	N
Immediate supervisor	Y	N	Y	N
Middle or upper management	Y	N	Y	N
Top management	Y	N	Y	N
Human resources department	Y	N	Y	N
Other (specify) ____________	Y	N	Y	N

8. In general, who **selects/approves** employees in your company to attend these programs?

Immediate supervisor	Y	N	Y	N
Middle or upper management	Y	N	Y	N
Top management	Y	N	Y	N
Human resources department	Y	N	Y	N
Other (specify) ____________	Y	N	Y	N

9. Would you describe the employees in your company who generally attend these programs as . . ?

Newly-promoted or first-time managers	Y	N	Y	N
Managers new to the company	Y	N	Y	N
Experienced managers in the company	Y	N	Y	N
Fast-track, high-potential managers	Y	N	Y	N
Managers making normal career progression	Y	N	Y	N
Other (specify) ____________	Y	N	Y	N

10 Were **all** of the University Residential programs used by your company in 1986 offered through **business/management** schools? . . Y N n/a

IF NO, ANSWER THE QUESTION IN THE BOX BELOW; OTHERWISE SKIP TO QUESTION 11

10a What other university departments have **residential** programs that you used in 1986?

Engineering	Y	N
Industrial Engineering	Y	N
Education	Y	N
Continuing Education	Y	N
Alumni Association	Y	N
Other (specify) ____________	Y	N

11 Based on the needs of executives/managers in your company, should university **management** programs place more emphasis on any of the following topics?

Computers	Y	N
Decisionmaking	Y	N
Economics	Y	N
Environmental Issues (e.g., societal, political influences)	Y	N
Finance, Accounting, Control	Y	N
Ethics/Social Responsibility	Y	N
Law and Government	Y	N
Liberal Arts	Y	N
International, Multinational Issues	Y	N
Marketing	Y	N
Managing People	Y	N
Operations	Y	N
Taxation	Y	N
Strategic Planning	Y	N
Personnel/Human Resources	Y	N
Technology	Y	N
Entrepreneurial Issues	Y	N
Health Issues	Y	N
Other (specify) ____________	Y	N

12 Do you have or are you considering offering courses that are telecommunicated or videotaped from universities for executives/managers at your company site(s)? . . . . Y N

IF YES, PLEASE DESCRIBE THE COURSE (E.G., TYPE, LEVEL OF MANAGEMENT, ETC.)

____

____

____

____

13 What could universities do to better meet your company's needs for executive/management education?

____

____

____

____

The next few questions are about two other types of University programs: General MBA and Sloan Programs. A General MBA program is defined as a program where employees attend courses periodically in the evening until they complete their degree, and are often reimbursed through tuition reimbursement programs. The Sloan program is offered only by MIT and Stanford and requires intensive involvement for approximately 1 year and participants normally move their families to the university area for the duration of the program.

14 Does your company have an employee tuition-reimbursement policy for courses taken as part of a General MBA program? . . . . Y N

IF YES, ANSWER THE QUESTIONS IN THE BOX BELOW;
IF NO, SKIP TO QUESTION 15

14a. Which employees can utilize tuition reimbursement for General MBA courses?

Employees below first/entry-level management . . . . . . Y N
First/entry-level managers . . . . Y N
Middle-level managers . . . . Y N
Upper-level managers . . . . Y N
Top-level managers . . . . Y N

14b. Who must approve reimbursement for General MBA courses?

Immediate supervisor . . . . Y N
Middle or upper management . . . . Y N
Top management . . . . Y N
Human resources department . . . . Y N
Other (specify) ____________________ . . . . . Y N

14c. What costs are reimbursed (assuming satisfactory course completion)? (Circle one)

1. Full (100%) reimbursement 2. 50-99% 3. Less than 50%

15 Did your company send any executives/managers to Sloan Programs at Stanford or MIT in 1986? . . . . Y N

IF YES, ANSWER THE QUESTIONS IN THE BOX BELOW;
IF NO, SKIP TO SECTION III, PAGE 8

15a Which levels of management do you send to Sloan programs?

First (entry-level supervisors)	Y	N
Middle (above first-level supervisors)	Y	N
Upper (heads of functional area or business unit)	Y	N
Top (active policy makers)	Y	N

15b. Why does your company send executives/managers to Sloan programs? (Circle 1, 2, or 3 for each reason listed using the scale below)

1 = A primary reason; 2 = A secondary reason; 3 = Not a reason

Broaden the individual, gain a new perspective	1	2	3
Chance to interact with other executives	1	2	3
Obtain job-specific knowledge/skills	1	2	3
Obtain state-of-the-art knowledge/skills	1	2	3
Reward to an executive	1	2	3
Prepare individual for next job in company	1	2	3
Obtain general management education	1	2	3
Cost effective relative to other program types	1	2	3
Obtain quality instruction	1	2	3
Other (specify) ______________________	1	2	3
Other (specify) ______________________	1	2	3

15c Would you describe the employees in your company who are generally sent to Sloan programs as...?

Newly-promoted or first-time managers	Y	N
Managers new to the company	Y	N
Experienced managers in the company	Y	N
Fast-track, high-potential managers	Y	N
Managers making normal career progression	Y	N
Other (specify)______________________	Y	N

III. SHORT-COURSE PROGRAMS

This section contains questions about short-course programs. Short-course programs are defined as open-enrollment programs that are typically **1-3 days** in length (definitely less than a week) and generally cover one or two topics. These short courses are offered by universities, consultants, and private organizations/associations to participants from **several** companies.

Note: We realize that at large companies, information on the utilization and effectiveness of short-course programs may reside at the division or component level. However, please answer the questions in this section to the best of your ability and/or obtain input from others.

1.	Did your company send any executives/managers to short-course programs in 1986?	Y	N

IF YES, SKIP TO QUESTION 2; IF NO, ANSWER THE QUESTIONS IN THE BOX BELOW AND THEN SKIP TO SECTION IV, PAGE 11

1a. Which of the following would you consider to be **major** reasons why your company did not use short-course programs in 1986?

Executives/managers at our company have no need for this type of program	Y	N
Executives/managers not interested in such programs	Y	N
Don't have adequate information on them	Y	N
Program content does not meet our needs	Y	N
Too much academic emphasis--not practical	Y	N
Quality programs not available locally	Y	N
Too much time away from job	Y	N
Program tuition/other costs too high	Y	N
We provide comparable in-company programs	Y	N
Other (specify) ______________	Y	N
Other (specify) ______________	Y	N

Now, please skip to Section IV, page 11

2. Which levels of management do you send to short-course programs?

First (entry-level supervisors)	Y	N
Middle (above first-level supervisors)	Y	N
Upper (heads of functional area or business unit)	Y	N
Top (active policy makers)	Y	N

3.	Does your company send a certain number of executives/managers to short-course programs on a regular basis?	Y	N

4. In 1986, did your company use short-course programs offered by **universities, nonuniversity sources**, or **both**? (Circle one)

Used university short courses only	1
Used other (nonuniversity) short courses only	2
Used both	3

PLEASE ANSWER QUESTIONS 5-8 FOR THE PROGRAMS USED BY YOUR COMPANY IN 1986

5 How do you and others in your company learn about these short-course programs?

	University Short-course Programs	Other Short-course Programs
Program brochures/mailings	Y N	Y N
Source books	Y N	Y N
Computerized directories	Y N	Y N
Company information (e.g., company brochure summarizing short-course programs offered)	Y N	Y N
Recommendations of past participants	Y N	Y N
Recommendations of other companies	Y N	Y N
Visits to programs by company personnel	Y N	Y N
Visits to company by program personnel	Y N	Y N
Other (specify) ________________	Y N	Y N
Other (specify) ________________	Y N	Y N

6 Why does your company send executives/managers to these short-course programs? (For each program type used in 1986, circle 1, 2, or 3 for each reason listed using the scale below)

1 = A primary reason; 2 = A secondary reason; 3 = Not a reason

	University Short-course Programs	Other Short-course Programs
Broaden the individual, gain a new perspective	1 2 3	1 2 3
Chance to interact with other executives	1 2 3	1 2 3
Obtain job-specific knowledge/skills	1 2 3	1 2 3
Obtain state-of-the-art knowledge/skills	1 2 3	1 2 3
Reward to an executive	1 2 3	1 2 3
Prepare individual for next job in company	1 2 3	1 2 3
Obtain general management education	1 2 3	1 2 3
Cost effective relative to other program types	1 2 3	1 2 3
Obtain quality instruction	1 2 3	1 2 2
Other (specify) ________________	1 2 3	1 2 3
Other (specify) ________________	1 2 3	1 2 3

7 Which of the following are **major** factors in making a decision regarding which short-course program is used by your company?

	University Short-course Programs	Other Short-course Programs
Program content/subject matter	Y N	Y N
Program fees	Y N	Y N
Program length	Y N	Y N
Other participants (companies) enrolled	Y N	Y N
Needs of the participant	Y N	Y N
Preferences of the participant	Y N	Y N
Regional convenience	Y N	Y N
Program effectiveness	Y N	Y N
Reputation of the program	Y N	Y N
Reputation of the university/organization	Y N	Y N
Other (specify) ________________	Y N	Y N
Other (specify) ________________	Y N	Y N

8. Would you describe the employees in your company who generally attend short-course programs as . . .?

	University Short-course Programs		Other Short-course Programs	
Newly-promoted or first-time managers	Y	N	Y	N
Managers new to the company	Y	N	Y	N
Experienced managers in the company	Y	N	Y	N
Fast-track, high-potential managers	Y	N	Y	N
Managers making normal career progression	Y	N	Y	N
Other (specify) ____________________	Y	N	Y	N

9. In general, who **nominates** employees in your company to attend short-course programs?

Participant can nominate self	Y	N
Immediate supervisor	Y	N
Middle or upper management	Y	N
Top management	Y	N
Human resources department	Y	N
Other (specify) ____________________	Y	N

10. In general, who **selects/approves** employees in your company to attend short-course programs?

Participant alone	Y	N
Immediate supervisor	Y	N
Middle or upper management	Y	N
Human resources department	Y	N
Top management	Y	N
Other (specify) ____________________	Y	N

11. Based on the experiences of individuals in your company who have attended short-course programs, in general how do you think they would rate the effectiveness of **university** short-course programs compared to short-courses offered by **others**? (Circle one number)

University short-course programs are much better	1
University short-course programs are somewhat better	2
About the same	3
University short-course programs are somewhat worse	4
University short-course programs are much worse	5

IV. COMPANY-SPECIFIC PROGRAMS

This section contains questions about company-specific programs. Company-specific programs are defined as programs that are designed specifically for executives/managers in your company, either developed by company personnel, consultants, or a university, but designed for and attended **exclusively** by your company's executives/managers. Therefore, when responding to these questions, please only consider company-specific programs for **executives/managers**, not company programs that may be offered to other employees.

1. Do you have any company-specific programs for executives/managers? . . . . Y N

IF YES, CONTINUE TO QUESTION 2;
IF NO, SKIP TO SECTION V, PAGE 13

2. Does your company have executive/management programs for first, middle, upper, and/or top levels of management that were **developed for your company** by. . .?

	Management Level							
	First		Middle		Upper		Top	
Company managers/training specialists . . .	Y	N	Y	N	Y	N	Y	N
Private consultants	Y	N	Y	N	Y	N	Y	N
Universities	Y	N	Y	N	Y	N	Y	N

IF YOUR COMPANY HAS PROGRAMS THAT WERE DEVELOPED BY UNIVERSITIES, ANSWER THE QUESTIONS IN THE BOX BELOW; OTHERWISE SKIP TO QUESTION 3.

2a. **Approximately** how many different **university-developed** programs for executives/managers does your company have? Number of Programs ________

2b. **Approximately** how long have these programs been in place on average? Number of Years ________

2c. Why did your company decide to utilize a university for developing a company-specific program?

More cost effective	Y	N
Company personnel didn't have time to develop	Y	N
Company personnel didn't have background to develop . .	Y	N
University affiliation results in more positive views of program by managers	Y	N
Results in a better quality program	Y	N
Other (specify) ____________________	Y	N

3. Who is involved in the **delivery** of your company-specific executive/management programs?

Company training specialists	Y	N
Upper/top managers	Y	N
Other company personnel	Y	N
Private (non-university) consultants	Y	N
University personnel as individual consultants	Y	N
University personnel as part of a university program developed specifically for your company	Y	N
Other (specify) ______________________________ .	Y	N

4. Why does your company send executives/managers to company-specific executive/management programs? (Circle 1, 2, or 3 for each reason listed using the scale below)

1 = A primary reason; 2 = A secondary reason; 3 = Not a reason

Understand our company's approach to management . .	1	2	3
Broaden the individual, gain a new perspective	1	2	3
Chance to interact with other and top-level executives .	1	2	3
Obtain job-specific knowledge/skills	1	2	3
Obtain state-of-the-art knowledge skills	1	2	3
Reward to an executive	1	2	3
Prepare individual for next job in company	1	2	3
Obtain general management education	1	2	3
Cost effective relative to other program types	1	2	3
Obtain quality instruction	1	2	3
Other (specify) ________________________	1	2	3
Other (specify) ________________________	1	2	3

5. In general, who **nominates** employees to attend company-specific management programs?

Participant can nominate self	Y	N
Immediate supervisor	Y	N
Middle or upper management	Y	N
Top management	Y	N
Human resources department	Y	N
Other (specify) ________________________	Y	N

6. In general, who **selects/approves** employees to attend company-specific management programs?

Participant alone	Y	N
Immediate supervisor	Y	N
Middle or upper management	Y	N
Human resources department	Y	N
Top management	Y	N
Other (specify) ________________________	Y	N

Can college credit be earned for participation in any of your company-specific executive/management programs? . . . . Y N

V. PREPARATION, FOLLOW-UP, AND ASSESSMENT

1. Which of the following statements best describes the approach your company uses to brief employees **prior** to attending executive/management education programs? (Circle the one answer that is closest to your company's approach for each program type used in 1986)

	Univ. Resid.	Exec. MBA	Univ. Short-Course	Other Short-Course	Company-Specific
1. Employees are not generally briefed prior to attending	1	1	1	1	1
2. Employees are briefed, but no specific method is used	2	2	2	2	2
3. Employees are briefed, and reading assignments given or meetings held with previous participants	3	3	3	3	3
4. Other (specify) . . . . ____________________________	4	4	4	4	4
5. Other (specify) . . . . ____________________________	5	5	5	5	5

2. Which of the following statements best describes the approach your company uses to **follow up** on participants after they have completed a program? (Circle the one answer that is closest to your company's approach for each program type used in 1986)

	Univ. Resid.	Exec. MBA	Univ. Short-Course	Other Short-Course	Company-Specific
1. No systematic follow-up is undertaken . . .	1	1	1	1	1
2. Systematic follow-up is undertaken including participant interviews or written reports	2	2	2	2	2
3. New job assignment is given	3	3	3	3	3
4. Other (specify) . . . . ____________________________	4	4	4	4	4
5. Other (specify) . . . . ____________________________	5	5	5	5	5

3. Which of the following statements best describes how your company obtains feedback from employees on their **assessment** of a program? (Circle the one answer that is closest to your company's approach for each program type used in 1986)

	Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company-Specific
1. No feedback obtained or obtained informally	1	1	1	1	1
2. Feedback obtained via discussion with participant and/or participant's supervisor	2	2	2	2	2
3. Feedback obtained via discussion with participant and/or supervisor after return from program **and again at a later time**	3	3	3	3	3
4. Feedback obtained via evaluation form completed by participant after return from program	4	4	4	4	4
5. Feedback obtained via evaluation form completed by participant after return from program **and again at a later time**	5	5	5	5	5
6. Other (specify) ______________________	6	6	6	6	6

4. Based on any formal or informal assessment approaches used by your company, how much improvement would you say there is in participants' job performance following participation in the program?

	Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company-Specific
1. Much Improvement	1	1	1	1	1
2. Some Improvement	2	2	2	2	2
3. Slight Improvement	3	3	3	3	3
4. No Improvement	4	4	4	4	4

5. Based on the experiences of individuals in your company who have attended various programs, what would you judge to be their overall assessment of the effectiveness of these programs? (For each program used in 1986, circle one number)

	Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company-Specific
1. Extremely Effective	1	1	1	1	1
2. Quite Effective	2	2	2	2	2
3. Somewhat Effective	3	3	3	3	3
4. Not Effective	4	4	4	4	4

VI. SUMMARY QUESTIONS AND TRENDS

		Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company Specific
1	Which of the following executive/management education programs did your company use **5 years ago**?	Y N	Y N	Y N	Y N	Y N

2 For programs used in 1986, how has your company's use (number of people sent) of those programs changed from 5 years ago? (Circle one number for each program type used in 1986)

		Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company Specific
1.	Increased a great deal (more than 25%)	1	1	1	1	1
2.	Increased some (5-25%)	2	2	2	2	2
3	About the same	3	3	3	3	3
4	Decreased some (5-25%)	4	4	4	4	4
5	Decreased a great deal (more than 25%)	5	5	5	5	5

3 How do you expect your company's future use (number of people sent) of each program type to change over the **next** 5 years? (Circle one number for each program type)

		Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company Specific
1.	Will increase a great deal (more than 25%)	1	1	1	1	1
2.	Will increase some (5-25%)	2	2	2	2	2
3.	Will remain about the same	3	3	3	3	3
4.	Will decrease some (5-25%)	4	4	4	4	4
5.	Will decrease a great deal (more than 25%)	5	5	5	5	5

3a. For programs that you expect an increase, (that is, for which you answered 1 or 2 in Q3) what is the **major** reason for the increase? (Circle one number for each program type that you indicated an increase)

		Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company Specific
1.	More executives/managers (e.g., company growing)	1	1	1	1	1
2.	Program quality improving	2	2	2	2	2
3.	Need to update executives on changing concepts/skills	3	3	3	3	3
4.	New corporate emphasis in executive/management education	4	4	4	4	4
5.	Executive education programs becoming more cost-effective	5	5	5	5	5
6.	Other (specify)	6	6	6	6	6

3b. For programs that you expect a decrease (that is, for which you answered 4 or 5 in Q3), what is the **major** reason for the decrease? (Circle one number for each program type that you indicated a decrease)

	Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company-Specific
1. There will be fewer managers in our company	1	1	1	1	1
2. Program quality declining	2	2	2	2	2
3. Everyone has attended	3	3	3	3	3
4. Programs becoming too expensive	4	4	4	4	4
5. Company programs will better meet our needs	5	5	5	5	5
6. Executive education programs becoming less cost-effective	6	6	6	6	6
7. Other (specify) ______________________	7	7	7	7	7

4. If business conditions for your company were to improve significantly in 1987 (for example, revenues increase by 10%), how would you expect the amount of money spent by your company on executive/management education for each program type to change? (Circle one answer for each program type)

	Univ Resid	Univ Exec MBA	Other Short-Course	Short-Course	Company-Specific
1. Increase a great deal (more than 10%)	1	1	1	1	1
2. Increase some (5-10%)	2	2	2	2	2
3. Stay about the same	3	3	3	3	3
4. Decrease some (5-10%)	4	4	4	4	4
5. Decrease a great deal (more than 10%)	5	5	5	5	5

5. If business conditions for your company were to decline significantly in 1987 (for example, revenues decline by 10%), how would you expect the amount of money spent by your company on executive/management education for each program type to change? (Circle one answer for each program type)

	Univ Resid	Exec MBA	Univ Short-Course	Other Short-Course	Company-Specific
1. Increase a great deal (more than 10%)	1	1	1	1	1
2. Increase some (5-10%)	2	2	2	2	2
3. Stay about the same	3	3	3	3	3
4. Decrease some (5-10%)	4	4	4	4	4
5. Decrease a great deal (more than 10%)	5	5	5	5	5

6. Please describe any trends you anticipate over the next 5 years in the utilization of executive/management education programs by your company in terms of participants (e.g., management level, educational background) and/or program types (e.g., university residential, Executive MBA, company-specific)?

7. Please list any specific topics that need additional emphasis or any topics for which a separate program may be needed in the next 5 years for executives/managers.

8. Please describe any executive/management programs that have been **most** useful for your company, and any that have been **least** useful.

WE APPRECIATE YOUR TIME AND EFFORT IN COMPLETING THIS SURVEY. BELOW ARE A FEW **IMPORTANT FINAL QUESTIONS**. WE ESPECIALLY APPRECIATE THE EXTRA TIME IT MAY TAKE YOU TO GATHER THE INFORMATION TO RESPOND TO THESE QUANTITATIVE QUESTIONS. **PLEASE ESTIMATE TO THE BEST OF YOUR ABILITY**, INDICATING A RANGE IF NECESSARY.

IF YOUR COMPANY USED UNIVERSITY RESIDENTIAL PROGRAMS IN 1986, PLEASE ANSWER THE QUESTIONS IN THE BOX BELOW; IF NOT, SKIP TO QUSESTION 10

9a. What was the typical length of the University Residential programs used by your company in 1986?

Number of Weeks ______

9b. **Approximately** what percentage of employees from your company that attended University Residential programs in 1986 also have an MBA?

Percentage ______

9c. Would you anticipate that if more of your executives/managers had an MBA this would result in a decreased need for your company to send these individuals to University Residential programs? (Circle one)

1. Yes, much decrease 1
2. Yes, some decrease 2
3. No decrease 3

10. Approximately how many **different** executive/management education programs of each of the following types did your company use in 1986? (List **approximate** number for each program type. For your answer, please consider different program titles offered by the same university or association as **separate** programs. If your company did not use a particular program type in 1986, please write "O")

University Residential programs: ______

Executive MBA programs: ______

General MBA programs: ______

University short-course programs: ______

Other short-course programs: ______

Company-specific programs: ______

11. **Approximately how many executives/managers did your company send in 1986 to each of the following program types?** **(If your company did not use a particular program type in 1986, please write "O")**

University Residential programs: ____________

Executive MBA programs: ____________

General MBA programs: ____________

Sloan programs: ____________

University short-course programs: ____________

Other short-course programs: ____________

Company-specific programs: ____________

12. **Approximately** what did your company spend **per participant** in 1986 on each of the following program types for executives/managers? We realize the following information may not be tracked for some or many of the program types. However, your **best estimate** would be appreciated.

Note: Please consider all relevant costs in your estimate (e.g., travel costs, the costs of staff involved in conducting company-specific programs, salary costs of participants if program attendance occurs on company time.)

12a. University Residential programs: Estimated cost **per participant** (Circle one)

1. Less than $2,000
2. $2,000 - 3,999
3. $4,000 - 5,999
4. $6,000 - 7,999
5. $8,000 - 9,999
6. $10,000 - 14,999
7. $15,000 - 19,999
8. More than $20,000

12b. Executive MBA programs: Estimated cost **per participant** **per year** (Circle one)

1. Less than $2,000
2. $2,000 - 3,999
3. $4,000 - 5,999
4. $6,000 - 7,999
5. $8,000 - 9,999
6. $10,000 - 14,999
7. $15,000 - 19,999
8. More than $20,000

12c. General MBA **programs**: Estimated cost **per participant per year** (Circle one)

1. Less than $1,000
2. $1,000 - 1,999
3. $2,000 - 3,999
4. $4,000 - 5,999
5. $6,000 - 7,999
6. $8,000 - 9,999
7. $10,000 - 14,999
8. More than $15,000

12d. University short-course programs: Estimated cost **per participant**: (Circle one)

1. $100 - 299
2. $300 - 499
3. $500 - 699
4. $700 - 999
5. $1,000 - 1,499
6. $1,500 - 1,999
7. $2,000 - 3,999
8. More than $4,000

12e. Other short-course programs: Estimated cost **per participant**: (Circle one)

1. $100 - 299
2. $300 - 499
3. $500 - 699
4. $700 - 999
5. $1,000 - 1,499
6. $1,500 - 1,999
7. $2,000 - 3,999
8. More than $4,000

12f. Company-specific management programs: Estimated cost **per participant**: (Circle one)

1. Less than $100
2. $100 - 299
3. $300 - 499
4. $500 - 699
5. $700 - 999
6. $1,000 - 1,499
7. $1,500 - 1,999
8. More than $2,000

13. **Approximately** how many executives/managers are there in your company at each of the following management levels? (Please indicate number. Detailed definitions of management levels are provided on the inside cover of the survey.)

First (entry-level supervisors): ____________

Middle (above first-level supervisors): ____________

Upper (heads of functional area or business unit): ____________

Top (active policy makers): ____________

APPENDIX C

PROCEDURES FOR HANDLING MISSING DATA

APPENDIX C

PROCEDURES FOR HANDLING MISSING DATA

After the company surveys were received and logged-in, they were reviewed for completeness, coded, and the information was entered into a data file. We then developed various preliminary analysis files and conducted extensive consistency and logic checks to identify potential data problems (e.g., recording errors, coding errors or data entry errors). Before creating the final analysis files, we also examined missing data problems in detail and developed procedures for handling cases with missing values. In this appendix, we describe the procedures used to deal with certain data problems and provide information on the extent to which the results reported in the main body of this report are affected by the procedures used to deal with missing data.

Although the quality of the data obtained was generally quite good, we had to overcome problems related to incomplete, inconsistent and missing information that typically occur with mail surveys. In particular, we had to deal with two general types of data problems:

(1) Although the mail survey was designed to have respondents always circle the appropriate answer (or provide a written answer), for certain types of questions it appeared that some respondents decided to only circle 'Yes' to those items that applied and not bother to circle the 'No' response for the items that did not apply.

(2) Quantitative information provided was sometimes inconsistent (e.g., respondent reported that more programs were used in the year than executives were sent) or missing altogether.

Below we describe how we dealt with these data problems.

Our approach to dealing with the first problem involved several components. First, during the process of coding the mail questionnaires, we identified sections in the survey where it appeared that the respondent only bothered to circle the 'Yes' responses. This generally occurred in the first four sections of the survey, and for the few questions that included a long list of Yes-No items. For example, questions related to the reasons why a company did not use a particular program type (e.g., question 1a of Sections II and III), or questions regarding the sources of information for a particular program type (e.g., question 4 of Section II and question 5 of Section III), had a very large number of items to deal with and respondents sometimes only circled the yes answers that were appropriate, rather than also indicating that the other items were not applicable by circling the 'No' category provided.

To deal with this potential problem, in the first four sections in the questionnaire we created a code that indicated whether such a pattern of response was observed, and this code was subsequently entered on the data file for each company. Then, in creating the final analysis variables for certain questions with many parts that were each to be answered by circling 'Yes' or 'No,' we adopted the following procedures:

- If the code indicated that the respondent generally circled only the yes responses for questions like these in this section, and for the question of interest the respondent circled 'Yes' for some items and did not circle 'No' for any items, then we replaced the missing data codes that had originally been entered for the other items with a 'No.'
- If, however, the respondent circled some 'No' answers within a particular string of items, or if the code indicated that the respondent generally completed all questions, then the missing data code entered for any items in the string were retained.

Although the extent to which this imputation was used to replace missing data varied considerably by the particular question, for the most part these steps resulted in imputing values for 10-20 percent of the cases in the mail survey sample.

The other data problem concerned missing or inconsistent quantitative data. This problem relates primarily to the questions in Section VI of the survey and the inconsistency of these answers with responses provided in other parts of the survey concerning program use. For example, some respondents indicated that they sent many more executives or managers to certain executive education programs than they indicated they had managers or employees in the company. Alternatively, some respondents indicated in one part of the survey that they did not use a certain type of program and then in another part of the survey they indicated having sent a substantial number of individuals to that program type.

To deal with such inconsistencies, and to obtain data on key quantitative items that were left blank, we first recontacted the respondents to clarify the problem. This effort was successful in resolving inconsistency problems in many cases, and provided key quantitative data from several companies who had initially left the items blank.

After these recontacts we were still faced with a considerable amount of missing data (e.g., 15-20 percent of the companies) on some quantitative items. Rather than omitting firms with missing data, we elected to impute values for the missing quantitative information based on data from firms that did provide responses to these items.

If the analysis had been performed only on the subset of the companies that had complete data on all items, this would have greatly reduced sample size and, in turn, our ability to provide precise answers to the questions of interest. More importantly, if data on certain items were not missing for random reasons, but for reasons that were systematically related to certain company characteristics or to the use of executive education programs, then an analysis of the subsample of companies that had complete data would have provided biased results. For example, if companies that did not currently use certain executive education programs were more likely to not answer questions about previous use -- most likely because they also did not use the programs previously -- then an analysis of trends in use that omitted companies with missing data would result in overstating the growth in use since current nonusers would be omitted. Because preliminary analyses of patterns of missing data suggested that biased results could be obtained in some cases if we only used those observations with complete data, we developed procedures to impute data for certain key items when they were missing.[1]

We imputed data only for the quantitative data items related to current use of various program types and costs, and whether the company used various program types 5 years ago. Although there are several alternative imputation procedures that could be used, we ultimately selected a sequential hot deck approach, that has been used extensively and is relatively easy to implement.[2] Such an approach generally preserves the means and variances of the variables, although not the covariances. In implementing this approach, we sorted the analysis file of 611 companies in ascending order by size

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[1] For example, of the companies that had missing data on the mail survey for whether they used university residential programs in 1981, slighltly over 10 percent used university residential programs in 1986 as opposed to over 30 percent overall. For executive MBA programs, fewer than 10 percent of the companies that had missing data in 1981 used this program type in 1986, as opposed to approximately 25 percent of all companies using executive MBA programs in 1986. This pattern of companies with missing data in 1981 most likely to be nonusers in 1986 is very strong for all program types. As a result, if we had omitted cases with missing data in estimating trends in use, by excluding nonusers we would have obtained biased estimates.

[2] See Little and Rubin (1987) p. 65 for a discussion of this and other approaches for dealing with missing data.

(i.e., total number of employees), and whenever a variable of interest was missing we used the value from the previous case. Thus, the value used for the imputation was always taken from a company of approximately the same total size. Moreover, to ensure that the resulting imputed variables were consistent with other variables that are not imputed (e.g., that the number of executives sent to a program was only positive for those companies that indicated they used that type of program), and to deal with the problem that companies with missing data on prior use were more likely to be current nonusers, we first sorted the file by number of employees within current use categories (yes or no). This procedure resulted in imputing data for approximately 10-15 percent of the quantitative data items concerning number of participants sent and average cost (and thus total expenditures), and somewhat more often for data on prior use.

Once these procedures for handling various missing data problems were implemented, we then developed the final variables and data files to support the analysis results described in the main body of the report. Although we believe the procedures used to handle data imputations are quite reasonable and are preferable to simply omitting cases with missing information, it is important to recognize that other procedures could have been used and that the decision to impute, as well as the method of imputation selected, could affect the results. It is our position that the imputed results are preferable to the non-imputed results, but it is instructive to compare the two sets of analyses in order to learn how sensitive the results are to the procedures we used in this specific instance.

In Table C-1 we compare the means and standard deviations of four key indicators of program use before and after implementing the imputation procedures described above. In particular, this table shows the means and standard deviations separately for each program type for (i) the number of participants sent to each program among those companies who used theprogram; (ii) the average cost per participant sent by program type; (iii) total expenditures on each program type among users; and (iv) total expenditures on each program type among all companies. As this table indicates, the average values of these measures of program use change very little due to the imputation procedure. In most cases, the average values after imputation are extremely similar to the pre-imputation means, and in only one instance -- overall expenditures on Executive MBA programs -- did the mean change by more than 10 percent. Although the standard deviations of these measures are also quite similar, there are somewhat greater differences, with four out of the 20 values changing by more than 10 percent. These results indicate that the imputation procedure generally preserved the means and variances of the key quantitative data items.

Table C-1

Comparison of Means and Standard Deviations
Before and After Imputation

Variable	Before Imputation		After Imputation	
	Mean	Std. Dev.	Mean	Std. Dev.
Participants Sent (Among Users)				
Univ. Res.	10.3	16.4	9.9	15.9
Exec. MBA	3.6	6.7	3.5	6.4
Univ. Short	36.6	75.5	36.7	77.9
Other Short	74.1	191.5	76.6	215.3
Company Spec.	346.3	784.4	340.3	730.6
Average Cost Per Participant ($)				
Univ. Res.	$6,903.3	$5,500.0	$7,079.0	$5,746.9
Exec. MBA	14,136.0	6,669.8	14,174.0	6,579.
Univ. Short	785.8	694.2	764.7	664.2
Other Short	687.2	592.6	695.8	591.1
Company Spec.	480.9	512.7	467.2	520.5

continued ...

Table C-1 (continued)

Variable	Before Imputation		After Imputation	
	Mean	Std. Dev.	Mean	Std. Dev.
Total Expenditures (Among Users in $)				
Univ. Res.	$63,747	$110,875	$60,976	$112,042
Exec. MBA	22,190	47,022	22,592	46,457
Univ. Short	23,556	64,016	22,988	57,498
Other Short	42,848	202,418	43,615	181,294
Company Spec.	171,062	551,107	162,003	529,774
Total Expenditures (All companies in $)				
Univ. Res.	17,228	64,157	18,597	67,895
Exec. MBA	4,597	23,181	5,540	24,949
Univ. Short	15,392	52,933	16,408	49,668
Other Short	37,327	189,455	38,768	171,464
Company Spec.	120,838	469,607	118,249	461,294

We also examined the extent to which the multiple regression results reported in Section VIII concerning differences in use patterns by company size and industry are sensitive to the way we dealt with missing data. In the second column of Table C-2 we show the regression coefficients underlying the regression model for total expenditures on all executive education programs that was depicted graphically in Figure VIII-1. As the column heading indicates, these results were obtained from a model that was estimated after data imputations were performed. For comparison purposes, in the first column we show the results that were obtained from estimating the same model prior to data imputations, based on the subsample of companies that had no missing data on expenditures for any of the program types.[3]

For the most part, the results in the two columns of Table C-2 are qualitatively similar. For example, although the coefficient of the dummy variable for having from 5,000 to 10,000 employees is approximately doubled after the imputations, the strong pattern of increasing total expenditures with company size is maintained. In addition, with one exception, the pattern of industry dummy variables (relative to the left-out category of manufacturing) are also very similar. That is, our results consistently indicate that the industrial sector that spends the least amount on executive development programs is wholesale/retail trade, with the agriculture/mining/construction sectors spending somewhat more, and with more dollars spent in the manufacturing sector.

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[3] Approximately two-thirds of the companies had complete expenditure data on all program types.

Table C-2

Regression Coefficients of Model for Total Expenditures on Executive Education Programs Before and After Data Imputation (Standard Errors in Parentheses)

Independent Variables	Before Imputation	After Imputation
Size:		
5,000-10,000 Employees	60216	121779*
	(53099)	(42488)
10,000-25,000 Employees	307707*	312427*
	(85487)	(66593)
25,000-50,000 Employees	415755*	506358*
	(166463)	(126749)
50,000 or More Employees	2880518*	2595102*
	(329396)	(223490)

Continued ...

Table C-2 (continued)

Independent Variables	Before Imputation	After Imputation
Industry:		
Agriculture/Mining/Construction	-80108	-40868
	(108549)	(82128)
Transportation/Communication	67947	88626
	(80707)	(66012)
Wholesale/Retail Trade	-97186	-50851
	(68725)	(54581)
Finance/Insurance/Real Estate	46976	130022*
	(65083)	(53246)
Service	60171	62604
	(58020)	(44613)
Constant	128979*	91100*
	(44009)	(34905)

*Significant at less than the .05 level.

On the other hand, the results differ somewhat concerning the sector that spends the most on executive development programs, holding company size constant. In particular, our post-imputation results indicate that the finance/insurance/real estate sectors spend the most on executive development programs, whereas the pre-imputation results indicate that the transportation/communications/utilities sector spends the most, followed by the service sector and with finance/insurance/real estate third. Because all previous studies of the use of executive development programs found that the financial sector is the highest user of executive education programs (e.g., Lusterman (1977)), these results, in combination with the results discussed above, led us to regard the results based on our data imputation procedure as the ones that are most valid.[4]

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[4] We also compared the regression models for total expenditures among users, both before and after data imputations were performed. These results consistently showed smaller differences in the coefficients of the size and industry dummy variables than in the overall expenditures model reported in Table C-2.

APPENDIX D

DATA UNDERLYING FIGURES REPORTED IN TEXT

APPENDIX TABLE D-1.

DATA FOR FIGURE III-1

Activities Involved in Executive Development

Activities	Percent of Companies
Participation in Formal Programs	89.1
On-The-Job Training/Development	92.7
Job Performance Evaluation and Feedback	89.4
Participation in Special Projects/Task Forces	79.8
Coaching/Mentoring	57.1
Job Rotation/Succession Planning	39.6
Career Planning	31.6

APPENDIX TABLE D-2

DATA FOR FIGURE III-2

Policy Requiring Participation in Formal Education By Management Level

(Among Companies That Have Such a Policy)

Management Level	Percent of Companies
First (entry-level supervisors)	93.1
Middle (above first-level supervisors)	79.2
Upper (heads of functional area)	59.9
Top (active policy makers)	48.5

APPENDIX TABLE D-3

Data for Figure III-4

Percent Using Executive Education
by Program Type (1986)

Program Type	Percent of Companies
University Residential	30.8
Executive MBA	24.6
University Short-Course	72.2
Other Short-Course	89.9
Company-Specific	74.8

APPENDIX TABLE D-4

Data for Figure III-7

Average Cost Per Participant by Program Type

Program Type	Average Cost
University Residential	$ 7,079
Executive MBA	14,174
University Short-Course	765
Other Short-Course	696
Company-Specific	467

APPENDIX TABLE D-5

Data for Figure III-9

Median Expenditures Per Year
Per Executive/Manager
By Industry

Type of Industry	Median Expenditures
Agriculture, Mining and Construction	$ 128
Manufacturing	223
Transportation, Communications and Utilities	294
Wholesale/Retail Trade	143
Finance, Insurance and Real Estate	379
Services	187

APPENDIX TABLE D-6

Data for Figure IV-7

Quality of Managers Sent to Various Program Types

	Percent of Companies		
	University Residential	Executive MBA	University Short-Course
Fast-Track, High-Potential Managers	39.4	43.7	17.0
Managers Making Normal Career Progression	8.5	6.1	21.5
Both	52.1	50.2	61.5

APPENDIX TABLE D-7

Data for Figure V-1

Selected Sources of Information by Program Type

	Percent of Companies			
	University Residential	Executive MBA	University Short-Course	Other Short-Course
University Program Brochures/Mailings	92.6	91.9	99.1	98.9
Recommendations of Past Participants	91.0	79.1	78.0	80.2
Recommendations of Other Companies	47.2	36.8	43.0	46.9
Visits to Program by Company Personnel	39.9	37.7	32.4	32.2
Visits to Company by Program Personnel	34.8	21.4	23.6	26.7
Computerized Directories	11.1	7.8	11.4	9.7

APPENDIX TABLE D-8

Data for Figure V-2

Reasons For Sending Participants to Programs By Program Type

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Broaden the Individual, Gain New Perspective	77.8	74.4	69.0	67.9	69.0
Obtain General Management Education	48.2	55.0	37.4	34.2	50.7
Obtain Job-Specific Knowledge/Skills	54.2	60.2	86.3	89.3	74.4
Obtain State-of-the-Art Knowledge/Skills	55.1	55.9	78.3	77.2	59.3

APPENDIX TABLE D-9

Data for Figure V-3

Reasons For Sending Participants to Programs By Program Type

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Obtain Quality Instruction	52.9	45.5	51.1	43.3	61.7
Cost-Effective Relative to Other Program Types	9.5	7.9	22.7	22.8	56.8
Reward an Executive	6.4	7.6	4.1	3.8	1.8

APPENDIX TABLE D-10

Data for Figure V-4

Reasons for Not Using Programs By Program Type

	Percent of Companies		
	University Residential	Executive MBA	University Short-Course
Too Much Time Away From Job	72.1	67.1	28.0
Program Tuition/Other Costs Too High	48.6	50.1	46.8
Provide Comparable In-Company Programs	13.9	10.8	22.7

APPENDIX TABLE D-11

Data for Figure V-5

Reasons for Not Using Programs By Program Type

	Percent of Companies		
	University Residential	Executive MBA	University Short-Course
Executives/Managers Not Interested in Programs	33.3	30.0	12.5
Too Much Academic Emphasis--Not Practical	30.4	28.9	23.5
Don't Have Adequate Information on Them	21.2	16.8	13.9
Executives/Managers Have No Need for Program	17.6	16.6	13.8

APPENDIX TABLE D-12

Data for Figure V-6

Major Factors in Decision to Use Specific Program by Program Type

	Percent of Companies			
	University Residential	Executive MBA	University Short-Course	Other Short-Course
Program Content/Subject Matter	91.3	88.9	97.0	96.3
Program Effectiveness	76.6	71.1	84.9	85.8
Reputation of Program	69.2	57.7	82.6	82.8
Program Fees	10.3	10.6	63.0	65.0

APPENDIX TABLE D-13

Data for Figure V-7

Management Level Nominating Employee Attendance by Program Type

	Percent of Companies			
	University Residential	Executive MBA	University Short-Course	Other Short-Course
Participant Can Nominate Self	56.6	69.3	80.4	60.7
Immediate Supervisor	59.2	59.1	90.6	86.1
Middle or Upper Management	61.3	62.6	70.1	77.6
Top Management	89.6	69.3	49.9	59.1
Human Resources Department	60.7	44.0	47.2	53.4

APPENDIX TABLE D-14

Data for Figure V-8

Management Level Approving Employee Attendance by Program Type

	Percent of Companies			
	University Residential	Executive MBA	University Short-Course	Other Short-Course
Participant Can Nominate Self	0.0	0.0	10.8	18.0
Immediate Supervisor	34.0	39.4	68.1	72.9
Middle or Upper Management	45.2	49.8	71.5	67.5
Top Management	86.2	79.3	48.0	57.8
Human Resources Department	45.1	46.7	43.3	49.5

APPENDIX TABLE D-15

Data for Figure VI-1

Methods Used to Obtain Feedback on Program Assessment

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
No Feedback Obtained or Obtained Informally	23.2	42.3	33.7	28.9	7.9
Feedback Obtained Via Discussion	44.2	44.5	38.7	43.4	30.3
Feedback Obtained Via Evaluation Form	27.7	12.4	22.9	22.8	45.9
Feedback Obtained Via Discussion and Evaluation Form	4.9	0.8	4.7	4.9	15.9

APPENDIX TABLE D-16

Data for Figure VI-2

Job Performance Following Participation by Program Type

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Much Improvement	14.8	21.4	2.9	5.6	21.4
Some Improvement	66.7	48.7	60.7	65.9	67.7
Slight Improvement	16.8	25.7	32.8	26.3	10.7
No Improvement	1.7	4.2	3.6	2.2	0.2

APPENDIX TABLE D-17

Data for Figure VI-3

Effectiveness of Programs by Program Type

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Extremely Effective	26.7	21.0	4.4	5.7	21.8
Quite Effective	50.5	54.3	36.9	41.0	54.6
Somewhat/Not Effective	22.8	24.7	58.6	53.3	23.6

APPENDIX TABLE D-18

Data for Figure VII-1

Change in Program Use Over Time

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Used Program in 1986	30.8	24.6	72.2	89.9	74.8
Used Program 5 Years Ago	35.9	29.2	69.9	87.0	62.8

APPENDIX TABLE D-19

Data for Figure VII-2

Changes in the Composition of Companies That Use Executive Education Over Time By Program Type

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Used Program in 1981 and 1986	20.3	13.7	55.5	82.6	55.1
Used Program in 1986 Only	10.4	10.9	16.7	7.3	19.8
Used Program in 1981 Only	15.6	15.5	14.4	4.4	7.7
Did Not Use Program	53.6	59.9	13.4	5.7	17.4

APPENDIX TABLE D-20

Data for Figure VII-3

Use Trends in Executive Education Over Past 5 Years
By Program Type

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Remain Stable	10.6	6.9	25.1	30.0	10.1
Increased	16.7	14.9	37.7	45.5	59.7
Decreased	19.1	18.3	23.8	18.8	12.8
Not Used	53.6	59.9	13.4	5.7	17.4

APPENDIX TABLE D-21

Data for Figure VII-4

Future Use of Executive Education Over Next 5 Years By Program Type (For Current Users)

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Remain Stable	47.7	59.4	42.8	36.3	17.2
Increase	45.5	33.4	49.6	57.9	79.0
Decrease	6.8	7.2	7.6	5.7	3.8

APPENDIX TABLE D-22

Data for Figure VII-5

Future Use of Executive Education Over Next 5 Years By Program Type (For Non-Users)

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Increase	31.5	29.5	38.5	38.5	44.9
No Change	68.5	70.5	61.5	61.5	55.1

APPENDIX TABLE D-23

Data for Figure VII-6

Reasons Why Company is Likely to Increase Use By Program Type

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
More Executives/Managers (e.g., Company Growing)	15.0	11.5	12.3	13.6	13.1
Need to Update Executives on Changing Concepts/ Skills	39.1	33.5	29.4	39.1	30.0
New Corporate Emphasis in Executive/Management Education	23.0	36.7	37.6	24.0	29.2
Combination of Reasons	19.4	15.0	17.3	19.5	18.6
Other	3.5	3.3	3.4	3.8	9.1

APPENDIX TABLE D-24

Data for Figure VII-7

Reasons Why Company is Likely to Decrease Use By Program Type

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
There Will Be Fewer Managers	4.6	1.8	12.6	22.4	26.8
Programs Becoming Too Expensive	29.2	23.7	15.7	12.6	20.0
Company Programs Will Better Meet Needs	12.8	43.1	42.2	39.8	0.0
Programs Becoming Less Cost-Effective	10.9	13.2	7.2	9.0	18.3
Other	42.5	18.2	22.3	16.2	34.9

APPENDIX TABLE D-25

Data for Figure VII-8

Effect of Improved Business Conditions on Executive Education Use (For Current Users Only)

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Increase	25.4	16.5	31.8	35.4	46.3
Remain Stable	73.1	79.9	66.2	62.3	53.2
Decrease	1.5	3.6	2.0	2.2	0.5

APPENDIX TABLE D-26

Data for Figure VII-9

Effect of Decline in Business Conditions on
Executive Education Use (For Current Users Only)

	Percent of Companies				
	University Residential	Executive MBA	University Short-Course	Other Short-Course	Company-Specific
Increase	2.5	0.7	2.3	1.7	8.9
Remain Stable	36.5	48.2	34.4	36.2	52.7
Decrease	60.9	51.1	63.3	62.1	38.4

APPENDIX TABLE D-27

Data for Figure VIII-1 (First Panel)

Adjusted Average Expenditure on Executive Education
By Size

Size Category	Average Total Expenditure
Average	$ 199,853
< 5,000	129,450
5,000 - 9,999	251,586
10,000 - 24,999	448,048
25,000 - 49,999	635,003
≥ 50,000	2,744,740

APPENDIX TABLE D-28

Data for Figure VIII-1 (Second Panel)

Adjusted Average Expenditure on Executive Education By Industry

Type of Industry	Average Total Expenditure
Average	$ 199,853
Agriculture, Mining and Construction	120,829
Manufacturing	163,397
Transportation, Communications and Utilities	251,741
Wholesale/Retail Trade	111,198
Finance, Insurance and Real Estate	294,112
Services	230,313

APPENDIX TABLE D-29

Data for Figure VIII-2 (First Panel)

Adjusted Percent Using University Residential Programs
By Size

Size Category	Percent of Companies
Average	30.6
< 5,000	27.0
5,000 - 9,999	35.6
10,000 - 24,999	43.1
25,000 - 49,999	56.5
≥ 50,000	77.2

APPENDIX TABLE D-30

Data for Figure VIII-2 (Second Panel)

Adjusted Percent Using Executive MBA Programs
By Size

Size Category	Percent of Companies
Average	24.6
< 5,000	24.2
5,000 - 9,999	20.5
10,000 - 24,999	35.0
25,000 - 49,999	33.5
≥ 50,000	58.9

APPENDIX TABLE D-31

Data for Figure VIII-3 (First Panel)

Adjusted Percent Using University Short-Course Programs By Size

Size Category	Percent of Companies
Average	72.3
< 5,000	72.2
5,000 - 9,999	69.1
10,000 - 24,999	79.4
25,000 - 49,999	83.0
≥ 50,000	87.6

APPENDIX TABLE D-32

Data for Figure VIII-3 (Second Panel)

Adjusted Percent Using Non-University Short-Course Programs By Size

Size Category	Percent of Companies
Average	89.9
< 5,000	90.1
5,000 - 9,999	88.9
10,000 - 24,999	90.1
25,000 - 49,999	88.2
≥ 50,000	93.9

APPENDIX TABLE D-33

Data for Figure VIII-4

Adjusted Percent Using Company-Specific Programs By Size

Size Category	Percent of Companies
Average	75.0
< 5,000	71.6
5,000 - 9,999	81.1
10,000 - 24,999	85.9
25,000 - 49,999	88.5
≥ 50,000	100.0

APPENDIX TABLE D-34

Data for Figure VIII-5 (First Panel)

Adjusted Percent Using University Residential Programs By Industry

Type of Industry	Percent of Companies
Average	30.6
Agriculture, Mining and Construction	18.6
Manufacturing	31.6
Transportation, Communications and Utilities	44.2
Wholesale/Retail Trade	25.8
Finance, Insurance and Real Estate	54.2
Services	18.1

APPENDIX TABLE D-35

Data for Figure VIII-5 (Second Panel)

Adjusted Percent Using Executive MBA Programs By Industry

Type of Industry	Percent of Companies
Average	24.6
Agriculture, Mining and Construction	11.0
Manufacturing	27.9
Transportation, Communications and Utilities	35.2
Wholesale/Retail Trade	11.1
Finance, Insurance and Real Estate	43.8
Services	17.3

APPENDIX TABLE D-36

Data for Figure VIII-6 (First Panel)

Adjusted Percent Using University Short-Course Programs By Industry

Type of Industry	Percent of Companies
Average	72.3
Agriculture, Mining and Construction	73.2
Manufacturing	79.1
Transportation, Communications and Utilities	70.2
Wholesale/Retail Trade	62.5
Finance, Insurance and Real Estate	77.1
Services	68.7

APPENDIX TABLE D-37

Data for Figure VIII-6 (Second Panel)

Adjusted Percent Using Non-University Short-Course Programs By Industry

Type of Industry	Percent of Companies
Average	89.9
Agriculture, Mining and Construction	96.6
Manufacturing	93.7
Transportation, Communications and Utilities	83.4
Wholesale/Retail Trade	83.7
Finance, Insurance and Real Estate	89.7
Services	90.0

APPENDIX TABLE D-38

Data for Figure VIII-7

Adjusted Percent Using Company-Specific Programs
By Industry

Type of Industry	Percent of Companies
Average	75.0
Agriculture, Mining and Construction	62.9
Manufacturing	66.0
Transportation, Communications and Utilities	72.6
Wholesale/Retail Trade	72.4
Finance, Insurance and Real Estate	92.3
Services	78.4

APPENDIX TABLE D-39

Data for Figure VIII-8 (First Panel)

Adjusted Average Expenditure on University Residential Programs Among Users -- By Size

Size Category	Average Total Expenditure
Average	$ 60,975
< 5,000	45,207
5,000 - 9,999	65,240
10,000 - 24,999	118,960
25,000 - 49,999	98,989
≥ 50,000	156,601

APPENDIX TABLE D-40

Data for Figure VIII-8 (Second Panel)

Adjusted Average Expenditure on Executive MBA Programs Among Users -- By Size

Size Category	Average Total Expenditure
Average	$ 22,592
< 5,000	16,141
5,000 - 9,999	28,986
10,000 - 24,999	36,231
25,000 - 49,999	44,513
≥ 50,000	115,129

APPENDIX TABLE D-41

Data for Figure VIII-9 (First Panel)

Adjusted Average Expenditure on University Short-Course Programs Among Users -- By Size

Size Category	Average Total Expenditure
Average	$ 22,988
< 5,000	18,352
5,000 - 9,999	27,628
10,000 - 24,999	32,001
25,000 - 49,999	42,603
≥ 50,000	204,157

APPENDIX TABLE D-42

Data for Figure VIII-9 (Second Panel)

Adjusted Average Expenditure on Non-University Short-Course Programs Among Users -- By Size

Size Category	Average Total Expenditure
Average	$ 43,614
< 5,000	28,590
5,000 - 9,999	64,057
10,000 - 24,999	90,324
25,000 - 49,999	73,261
≥ 50,000	526,355

APPENDIX TABLE D-43

Data for Figure VIII-10

Adjusted Average Expenditure on Company-Specific Programs Among Users -- By Size

Size Category	Average Total Expenditure
Average	$ 158,120
< 5,000	100,670
5,000 - 9,999	183,561
10,000 - 24,999	335,287
25,000 - 49,999	549,114
≥ 50,000	1,912,492

APPENDIX TABLE D-44

Data for Figure VIII-11 (First Panel)

Adjusted Average Expenditure on University Residential Programs Among Users -- By Industry

Type of Industry	Average Total Expenditure
Average	$ 60,975
Agriculture, Mining and Construction	52,222
Manufacturing	60,775
Transportation, Communications and Utilities	43,162
Wholesale/Retail Trade	37,776
Finance, Insurance and Real Estate	84,922
Services	54,442

APPENDIX TABLE D-45

Data for Figure VIII-11 (Second Panel)

Adjusted Average Expenditure on Executive MBA Programs
Among Users -- By Industry

Type of Industry	Average Total Expenditure
Average	$ 22,592
Agriculture, Mining and Construction	10,809
Manufacturing	25,767
Transportation, Communications and Utilities	31,634
Wholesale/Retail Trade	19,074
Finance, Insurance and Real Estate	20,053
Services	18,146

APPENDIX TABLE D-46

Data for Figure VIII-12 (First Panel)

Adjusted Average Expenditure on University Short-Course Programs Among Users -- By Industry

Type of Industry	Average Total Expenditure
Average	$ 22,988
Agriculture, Mining and Construction	17,860
Manufacturing	26,113
Transportation, Communications and Utilities	37,516
Wholesale/Retail Trade	14,106
Finance, Insurance and Real Estate	21,133
Services	21,428

APPENDIX TABLE D-47

Data for Figure VIII-12 (Second Panel)

Adjusted Average Expenditure on Non-University Short-Course Programs Among Users -- By Industry

Type of Industry	Average Total Expenditure
Average	$ 43,614
Agriculture, Mining and Construction	28,821
Manufacturing	40,723
Transportation, Communications and Utilities	44,803
Wholesale/Retail Trade	24,618
Finance, Insurance and al Estate	45,313
Services	56,613

APPENDIX TABLE D-48

Data for Figure VIII-13

Adjusted Average Expenditure on Company-Specific Programs Among Users -- By Industry

Type of Industry	Average Total Expenditure
Average	$ 158,120
Agriculture, Mining and Construction	120,103
Manufacturing	105,902
Transportation, Communications and Utilities	208,038
Wholesale/Retail Trade	80,945
Finance, Insurance and Real Estate	205,361
Services	190,546

APPENDIX TABLE D-49

Data for Figure IX-5

Average Length of Executive Education Programs in Weeks

	Weeks		
	1976	1981	1986
General	6.5	4.9	4.2
Functional	2.6	1.9	1.5

APPENDIX TABLE D-50

Data for Figure IX-6 (First Panel)

Distribution of Functional Management Programs By Length in Weeks for 1981 and 1986

	Percent of Programs	
Length in Weeks	1981	1986
1	46.0	60.0
2 - 3	46.0	39.0
4+	8.0	1.0

APPENDIX TABLE D-51

Data for Figure IX-6 (Second Panel)

Distribution of General Management Programs By Length in Weeks for 1981 and 1986

	Percent of Programs	
Length in Weeks	1981	1986
1	11.0	30.0
2 - 3	37.0	33.0
4 - 5	28.0	22.0
6 - 9	18.0	9.0
10+	6.0	6.0

APPENDIX TABLE D-52

Data for Figure IX-7 (First Panel)

Distribution of Participants by Length of Functional Management Program in 1981 and 1986

	Percent of Participants	
Length in Weeks	1981	1986
1	51.0	60.0
2 - 3	42.0	38.0
4+	7.0	2.0

APPENDIX TABLE D-53

Data for Figure IX-7 (Second Panel)

Distribution of Participants By Length of General Management Program in 1981 and 1986

	Percent of Participants	
Length in Weeks	1981	1986
1	15.0	37.0
2 - 3	31.0	24.0
4 - 5	24.0	19.0
6 - 9	21.0	12.0
10+	9.0	8.0

APPENDIX TABLE D-54

Data for Figure IX-8 (First Panel)

Average Cost of Management Programs
By Type and Over Time

	1985 Constant Dollars		
	1976	1981	1981
General	$ 6,255	$ 5,341	$ 5,721
Functional	2,785	2,644	3,076

APPENDIX TABLE D-55

Data for Figure IX-8 (Second Panel)

Average Program Cost Per Week
By Type and Over Time

	1985 Constant Dollars		
	1976	1981	1986
General	$ 1,144	$ 1,352	$ 1,828
Functional	1,190	1,554	2,086

APPENDIX TABLE D-56

Data for Figure IX-9 (First and Second Panels)

Changes in Subjects for Participants in Functional Management Programs From 1981 to 1986

Subjects	Percent of Participants 1981	Percent of Participants 1986
Technology	8.8	21.3
General Management	90.9	57.7
Computers	5.5	17.1
Personnel/Human Resources	21.8	4.2
Environmental Issues	6.9	1.9
International/Multinational Issues	0.0	8.2
Liberal Arts	7.5	0.6
Finance, Accounting, Control	28.6	33.1
Marketing	58.4	44.0
Economics	6.8	1.4
Decisionmaking	14.3	11.0
Strategic Planning	36.7	32.9
Operations	10.6	8.7
Other	5.8	12.9

APPENDIX E

COEFFICIENTS OF OLS REGRESSION MODELS DESCRIBED IN SECTION VIII

Table E-1
Coefficients of OLS Regression Models For Total Expenditures Among Users in 1986
(Standard Errors in Parentheses)

Independent Variables	University Residential	Executive MBA	University Short Course	Other Short Courses	Company Specific
SIZE					
5,000-10,000 Employees	20033 (14671)	12845 (7243)	9276 (5056)	35467* (14413)	82891 (43340)
10,000-25,000 Employees	73753* (20903)	20090* (9557)	13649 (7482)	61734* (22431)	234617* (67821)
25,000-50,000 Employees	53782 (33512)	28372 (175767)	24251 (13710)	44671 (42801)	448444* (124440)
50,000 or more Employees	111395* (49527)	98989* (23006)	185805* (23661)	497766* (74026)	1811822* (204315)

continued ...

Table E-1 (continued)

Independent Variables	University Residential	Executive MBA	University Short Course	Other Short Courses	Company Specific
INDUSTRY					
Agriculture/Mining/Construction	-8553	-14958	-8254	-11902	14201
	(35502)	(18323)	(9439)	(26666)	(92605)
Transportation/Communication	-17613	5867	11404	4080	102136
	(20402)	(9199)	(7722)	(22773)	(70133)
Wholesale/Retail	-22999	-6694	-12008	-16105	-14959
	(20656)	(11984)	(6613)	(18670)	(58571)
Finance/Insurance	24148	-5715	-4980	4590	99459
	(16452)	(7350)	(6071)	(17775)	(53543)
Service	-6333	-7622	-4685	15890	84643
	(19029)	(7761)	(5232)	(14965)	(48077)
Constant	44994	19328	21426	25563	48999

*Significant <.05

Table E-2

Means Values of Variables in Models For Total Expenditures Among Users in 1986

Independent Variables	University Residential	Executive MBA	University Short Course	Other Short Courses	Company Specific
SIZE					
5,000-10,000 Employees	.24	.18	.19	.20	.21
10,000-25,000 Employees	.10	.10	.08	.07	.08
25,000-50,000 Employees	.03	.02	.02	.02	.02
50,000 or more Employees	.02	.01	.01	.01	.01

continued ...

Table E-2 (continued)

Independent Variables	University Residential	Executive MBA	University Short Course	Other Short Courses	Company Specific
INDUSTRY					
Agriculture/Mining/Construction	.03	.02	.05	.05	.04
Transportation/Communication	.12	.12	.08	.08	.08
Wholesale/Retail	.12	.06	.12	.13	.14
Finance/Insurance	.17	.26	.16	.15	.19
Service	.17	.21	.29	.30	.31
DEPENDENT VARIABLE	60976	22592	22988	43615	158121

Table E-3

Coefficients of OLS Regression Model For Whether Use Program in 1986

(Standard Errors in Parentheses)

Independent Variables	University Residential	Executive MBA	University Short Course	Other Short Courses	Company Specific
SIZE					
5,000-10,000 Employees	.09* (.03)	-.04 (.03)	-.03 (.03)	-.01 (.02)	.10* (.03)
10,000-25,000 Employees	.16* (.05)	.11* (.05)	.07 (.05)	-.00 (.04)	.14* (.05)
25,000-50,000 Employees	.03* (.01)	.09 (.09)	.11 (.10)	-.02 (.07)	.17 (.10)
50,000 or more Employees	.50* (.18)	.35* (.17)	.15 (.18)	.04 (.12)	.30 (.17)

continued ...

Table E-3 (continued)

Independent Variables	University Residential	Executive MBA	University Short Course	Other Short Courses	Company Specific
INDUSTRY					
Agriculture/Mining/Construction	-.13* (.06)	-.17* (.06)	-.06 (.07)	.03 (.04)	-.03 (.06)
Transportation/Communication	.13* (.05)	.07 (.05)	-.09 (.05)	-.10* (.04)	-.07 (.05)
Wholesale/Retail	-.06 (.04)	-.17* (.04)	-.17* (.04)	-.10* (.03)	.06 (.04)
Finance/Insurance	.23* (.04)	.16* (.04)	-.02 (.04)	-.04 (.03)	.26* (.04)
Service	-.13* (.04)	-.11* (.03)	-.10* (.04)	-.04 (.02)	.12* (.03)
Constant	.28	.28	.79	.94	.63

*Significant <.05

Table E-4

Means Values of Variables in Models For Whether Use Program in 1986

Independent Variables	University Residential	Executive MBA	University Short Course	Other Short Courses	Company Specific
SIZE					
5,000-10,000 Employees	.20	.20	.20	.02	.20
10,000-25,000 Employees	.07	.07	.07	.07	.07
25,000-50,000 Employees	.02	.02	.02	.02	.02
50,000 or more Employees	.01	.01	.01	.01	.01

continued ...

Table E-4 (continued)

Independent Variables	University Residential	Executive MBA	University Short Course	Other Short Courses	Company Specific
INDUSTRY					
Agriculture/Mining/Construction	.05	.05	.05	.05	.05
Transportation/Communication	.08	.08	.08	.08	.08
Wholesale/Retail	.14	.14	.14	.14	.14
Finance/Insurance	.15	.15	.15	.15	.15
Service	.30	.30	.30	.30	.30
DEPENDENT VARIABLE	.31	.25	.72	.90	.75

APPENDIX F

COEFFICIENTS OF MULTINOMIAL LOGIT MODELS DESCRIBED IN SECTION VIII

Table F-1
Coefficients of Four State Multinomial Logit Model For Trends in University Residential Program Use (Asymptotic Standard Errors in Parentheses)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Size			
5,000-10,000 Employees	.02 (.04)	-.06 (.04)	.02 (.03)
10,000-25,000 Employees	.02 (.06)	.10 (.06)	.05 (.05)
25,000-50,000 Employees	.09 (.11)	.14 (.12)	.02 (.09)
50,000 or more Employees	.16 (.20)	.07 (.21)	.12 (.17)

continued ...

Table F-1 (continued)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Industry			
Agriculture/Mining/ Construction	-.00	.02	-.08
	(.07)	(.08)	(.06)
Transportation/ Communication	.00	-.01	.12*
	(.06)	(.06)	(.05)
Wholesale/Retail	.06	-.13*	-.07
	(.05)	(.05)	(.04)
Finance/Insurance	.17*	-.07	.02
	(.05)	(.05)	(.04)
Service	-.06	-.05	-.03
	(.04)	(.04)	(.03)
Constant	.14*	.23*	.11*
	(.03)	(.03)	(.03)

The coefficients for the fourth state--non use in both 1981 and 1986--have been normalized to zero.

*Significant <.05

Table F-2
Coefficients of Four State Multinomial Logit Model For Trends in Executive MBA Program Use (Asymptotic Standard Errors in Parentheses)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Size			
5,000-10,000 Employees	-.00	.12*	-.02
	(.04)	(.04)	(.03)
10,000-25,000 Employees	-.02	.11	.02
	(.06)	(.06)	(.03)
25,000-50,000 Employees	.03	.17	-.01
	(.10)	(.11)	(.08)
50,000 or more Employees	.25	-.04	.46
	(.19)	(.20)	(.14)

continued ...

Table F-2 (continued)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Industry			
Agriculture/Mining/ Construction	-.10	-.07	.00
	(.07)	(.08)	(.05)
Transportation/ Communication	.03	.12*	.02
	(.06)	(.06)	(.04)
Wholesale/Retail	-.06	-.05	-.06
	(.05)	(.05)	(.03)
Finance/Insurance	.14*	-.09	.05
	(.05)	(.05)	(.03)
Service	.01	-.09*	-.06
	(.04)	(.05)	(.03)
Constant	.13*	.19*	.09*
	(.03)	(.03)	(.02)

The coefficients for the fourth state--non use in both 1981 and 1986--have been normalized to zero.

*Significant <.05

Table F-3
Coefficients of Four State Multinomial Logit Model For Trends in University Short Course Program Use
(Asymptotic Standard Errors in Parentheses)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Size			
5,000-10,000 Employees	-.09 (.05)	-.10[a] (.04)	.01 (.04)
10,000-25,000 Employees	-.15 (.08)	-.00 (.07)	.11 (.07)
25,000-50,000 Employees	-.20 (.15)	-.08 (.13)	.25 (.13)
50,000 or more Employees	.03 (.27)	-.07 (.23)	.07 (.23)

continued ..

Table F-3 (continued)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Industry			
Agriculture/Mining	-.09	-.02	.04
Construction	(.10)	(.09)	(.09)
Transportation	-.03	-.02	-.03
Communication	(.08)	(.06)	(.07)
Wholesale/Retail	.03	-.06	-.10
	(.06)	(.06)	(.06)
Finance/Insurance	-.11	-.03	.08
	(.06)	(.06)	(.06)
Service	-.05	-.05	-.01
	(.05)	(.05)	(.05)
Constant	.44*	.29*	.24*
	(.04)	(.04)	(.04)

The coefficients for the fourth state--non use in both 1981 and 1986--have been normalized to zero.

*Significant <.05

Table F-4
Coefficients of Four State Multinomial Logit Model
For Trends in Other Short Course Program Use
(Asymptotic Standard Errors in Parentheses)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Size			
5,000-10,000 Employees	-.01	.03	-.00
	(.05)	(.04)	(.05)
10,000-25,000 Employees	-.11	.00	.08
	(.08)	(.06)	(.08)
25,000-50,000 Employees	-.13	.06	.09
	(.15)	(.12)	(.14)
50,000 or more Emplovees	.15	-.12	-.03
	(.27)	(.21)	(.25)

continued ...

Table F-4 (continued)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Industry			
Agriculture/Mining Construction	-.10	.09	.03
	(.10)	(.07)	(.09)
Transportation Communication	.06	.03	-.09
	(.08)	(.06)	(.07)
Wholesale/Retail	.19*	-.16*	-.10
	(.07)	(.05)	(.06)
Finance/Insurance	.05	-.03	-.02
	(.06)	(.05)	(.06)
Service	.05	-.04	-.01
	(.05)	(.04)	(.05)
Constant	.41*	.21*	.32*
	(.04)	(.03)	(.04)

The coefficients for the fourth state--non use in both 1981 and 1986--have been normalized to zero.

*Significant <.05

Table F-5
Coefficients of Four State Multinomial Logit Model For Trends in Company Specific Program Use (Asymptotic Standard Errors in Parentheses)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Size			
5,000-10,000 Employees	.02	.03	.05
	(.05)	(.03)	(.03)
10,000-25,000 Employees	-.04	.05	.12*
	(.08)	(.05)	(.05)
25,000-50,000 Employees	-.08	.09	.14
	(.15)	(.10)	(.09)
50,000 or more Employees	.15	-.07	.12
	(.27)	(.18)	(.16)

continued ...

Table F-5 (continued)

Independent Variables	Increase Use From 1981 to 1986	Decrease Use From 1981 to 1986	Stable Users in 1981 and 1986
Industry			
Agriculture/Mining Construction	.04	.10	.04
	(.10)	(.07)	(.06)
Transportation Communication	.10	.02	-.01
	(.08)	(.05)	(.05)
Wholesale/Retail	.12	-.05	.01
	(.06)	(.04)	(.04)
Finance/Insurance	.27*	-.08	.03
	(.06)	(.04)	(.04)
Service	.08	-.06	.07*
	(.05)	(.04)	(.03)
Constant	.51*	.15*	.05*
	(.04)	(.03)	(.03)

The coefficients for the fourth state--non use in both 1981 and 1986--have been normalized to zero.

*Significant = .05

Table F-6
Coefficients of Five-State Multinomial Logit Model For Future Use of University Residential Programs
(Asymptotic Standard Errors in Parentheses)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Size				
5,000-10,000 Employees	-.00	.02	.06*	-.09*
	(.04)	(.04)	(.01)	(.04)
10,000-25,000 Employees	.06	.07	.03	-.07
	(.06)	(.06)	(.02)	(.07)
25,000-50,000 Employees	.18	.08	.01	-.03
	(.10)	(.11)	(.04)	(.12)
50,000 or more Employees	.25	.22	.04	-.19
	(.19)	(.19)	(.08)	(.22)

continued ...

Table F-6 (continued)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Industry				
Agriculture/Mining Construction	.01	-.16*	-.00	-.08
	(.07)	(.07)	(.03)	(.08)
Transportation/ Communication	.06	.03	.03	.05
	(.06)	(.06)	(.02)	(.07)
Wholesale/Retail	.00	-.08	-.00	-.03
	(.05)	(.05)	(.02)	(.05)
Finance/Insurance	.16*	.02	.04*	.03
	(.05)	(.05)	(.02)	(.05)
Service	-.06	-.08	.01	.00
	(.04)	(.04)	(.02)	(.05)
Constant	.12*	.17*	-.00	.23*
	(.03)	(.03)	(.01)	(.04)

The coefficients of the fifth state -- non use in 1986 and non use in next 5 years--have been normalized to zero.

*Significant <.05

Table F-7
Coefficients of Five-State Multinomial Logit Model For Future Use of Executive MBA Programs
(Asymptotic Standard Errors in Parentheses)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Size				
5,000-10,000 Employees	-.02	-.03	.03*	-.02
	(.03)	(.04)	(.02)	(.04)
10,000-25,000 Employees	.00	.07	.03	-.02
	(.05)	(.05)	(.02)	(.07)
25,000-50,000 Employees	.04	.04	.01	-.06
	(.09)	(.11)	(.04)	(.12)
50,000 or more Employees	.07	.21	.10	-.15
	(.15)	(.19)	(.08)	(.23)

continued ...

Table F-7 (continued)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Industry				
Agriculture/Mining Construction	-.03	-.12	-.03	-.00
	(.06)	(.07)	(.03)	(.08)
Transportation Communication	.00	.07	.00	-.06
	(.05)	(.06)	(.02)	(.07)
Wholesale/Retail	-.03	-.12*	-.02	-.06
	(.04)	(.05)	(.01)	(.06)
Finance/Insurance	.08*	.08	.00	-.02
	(.04)	(.04)	(.01)	(.06)
Service	-.01	-.07	-.03	.02
	(.03)	(.04)	(.02)	(.05)
Constant	.09*	.17*	.02	.23*
	(.02)	(.03)	(.02)	(.04)

The coefficients of the fifth state -- non use in 1986 and non use in next 5 years -- have been normalized to zero.

*Significant <.05

Table F-8
Coefficients of Five-State Multinomial Logit Model For Future Use of University Short Course Programs (Asymptotic Standard Errors in Parentheses)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Size				
5,000-10,000 Employees	-.06	-.00	.04	-.05
	(.05)	(.05)	(.02)	(.03)
10,000-25,000 Employees	-.05	.00	.06	-.04
	(.08)	(.08)	(.04)	(.05)
25,000-50,000 Employees	.06	-.01	.05	-.04
	(.14)	(.14)	(.12)	(.09)
50,000 or more Employees	.09	.09	-.00	-.13
	(.26)	(.26)	(.12)	(.18)

continued ...

Table F-8 (continued)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Industry				
Agriculture/Mining	-.10	-.04	.08	.03
Construction	(.10)	(.09)	(.05)	(.06)
Transportation/	-.03	-.08	.01	.02
Communication	(.08)	(.07)	(.04)	(.05)
Wholesale/Retail	.03	-.19*	-.02	.05
	(.06)	(.06)	(.03)	(.04)
Finance/Insurance	.06	-.12*	.04	-.07
	(.06)	(.06)	(.03)	(.04)
Service	.03	-.16*	.03	-.06
	(.05)	(.05)	(.02)	(.03)
Constant	.36*	.41*	.03	.13*
	(.04)	(.04)	(.02)	(.03)

The coefficients of the fifth state -- non use in 1986 and non use in next 5 years -- have been normalized to zero.

*Significant <.05

Table F-9

Coefficients of Five-State Multinomial Logit Model

For Future Use of Other Short Course Programs

(Asymptotic Standard Errors in Parentheses)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Size				
5,000-10,000 Employees	-.11* (.05)	.08 (.05)	.02 (.02)	-.02 (.01)
10,000-25,000 Employees	-.11 (.08)	.06 (.08)	.05 (.04)	.00 (.03)
25,000-50,000 Employees	-.08 (.16)	.07 (.15)	.05 (.07)	-.03 (.06)
50,000 or more Employees	-.16 (.28)	.22 (.26)	.02 (.12)	-.04 (.10)

continued ...

Table F-9 (continued)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Industry				
Agriculture/Mining Construction	-.17	.04	.16*	-.01
	(.10)	(.10)	(.04)	(.04)
Transportation Communication	-.07	-.06	.02	.07*
	(.08)	(.08)	(.04)	(.03)
Wholesale/Retail	-.02	-.09	-.00	.05*
	(.07)	(.06)	(.03)	(.02)
Finance/Insurance	-.06	-.06	.10*	-.00
	(.07)	(.06)	(.03)	(.02)
Service	-.02	-.07	.05*	-.01
	(.05)	(.05)	(.02)	(.02)
Constant	.59*	.35*	.00	.03*
	(.04)	(.04)	(.02)	(.02)

The coefficients of the fifth state -- non use in 1986 and non use in next 5 years -- have been normalized to zero.

*Significant <.05

Table F-10
Coefficients of Five-State Multinomial Logit Model For Future Use of Company Specific Programs
(Asymptotic Standard Errors in Parentheses)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Size				
5,000-10,000 Employees	-.06 (.05)	.15* (.03)	-.01 (.02)	-.04 (.03)
10,000-25,000 Employees	.04 (.08)	.10 (.05)	-.00 (.03)	-.13* (.05)
25,000-50,000 Employees	.05 (.15)	.09 (.10)	.03 (.05)	-.09 (.10)
50,000 or more Employees	.09 (.26)	.20 (.18)	.00 (.09)	-.15 (.17)

continued ...

Figure F-10 (continued)

Independent Variables	Use in 1986 Increase Use in Next 5 Years	Use in 1986 Stable Use in Next 5 Years	Use in 1986 Decrease Use in Next 5 Years	No Use in 1986 Use in Next 5 Years
Industry				
Agriculture/Mining Construction	-.10 (.10)	-.03 (.07)	.10* (.03)	-.11 (.06)
Transportation Communication	.01 (.08)	.00 (.05)	.05 (.03)	-.05 (.05)
Wholesale/Retail	.06 (.07)	-.00 (.04)	.00 (.02)	-.11* (.04)
Finance/Insurance	.20* (.06)	.02 (.04)	.04* (.02)	-.12* (.04)
Service	.09 (.05)	.01 (.04)	.02 (.02)	-.11* (.03)
Constant	.53* (.04)	.08* (.03)	.01 (.01)	.21* (.03)

The coefficients of the fifth state -- non use in 1986 and non use in next 5 years -- have been normalized to zero.

*Significant <.05

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